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Social Networks of Two Caregiver Groups: Mothers of Premature Infants and Women Caregivers of Cognitively Impaired Older Adults

by

Lynn Marie Coté

A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled **Social Networks of Two Caregiver Groups: Mothers of Premature Infants and Women Caregivers of Cognitively Impaired Older Adults** submitted by **Lynn Marie Coté** in partial fulfillment of the requirements for the degree of **Master of Nursing.**

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Abstract

The purpose of this study was to examine differences in the size and composition of social networks for women in two different caregiving situations: mothers ($n = 20$) of premature infants and women caregivers ($n = 20$) of cognitively impaired older adults. Each mother and woman caregiver completed an Arizona Social Support Interview Schedule (ASSIS) and a biographical data form. It was found that the available social network size was similar for both groups of women, that in both samples there were more nonkin than kin in the informal network, and more kin than nonkin in the informal conflicted network. In examining the proportion of kin in the total informal network, women caregivers were less likely to have kin support compared to the mothers of premature infants. The mothers of premature infants reported a higher level of perceived satisfaction with utilized support than women caregivers.

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CHAPTER 1

Introduction

Women spend most of their lives giving care (Bunting, 1992) and "caring has been [socially] constructed as pre-eminently women's work" (Lewis & Meredith, 1988, p. 3). Caregiving by women to family members is, however, largely invisible work and unpaid labour (Bunting, 1992; Lewis & Meredith, 1988). Two common stressful family caregiving situations for women are caring for a premature infant (Boukydis & Moses, 1995; Hayunga, 1993; McHaffie, 1992; Zarling, Hirsch & Landry, 1988) particularly if the infant has been hospitalized (Coffman, Levitt & Deets, 1990) and caring for an elderly person (Brody, 1990; Chappell, 1992; Gottlieb, 1991; Litvin, Albert, Brody & Hoffman, 1995; Lewis & Meredith, 1988) including those who are cognitively impaired (Kiecolt-Glaser et al., 1991; MalonBeach, Zarit & Farbman, 1995; Morgan & March, 1992; Morris, Morris & Britton, 1989; Pagel, Erdly & Becker, 1987; Suitor & Pillemer, 1993; Zarit, Todd & Zarit, 1986).

Caregiving by women for those dependent on them for help involves a moral dimension of devoting attention to the needs of the other while disregarding one's own concerns and self-interest (Tronto, 1992). "*Caring for* [italics added] involves responding to the particular, concrete, physical, spiritual, intellectual, psychic, and emotional needs of others" (Tronto, p. 174). The decision of women to give care is largely directed by our social values and our institutions. Sociopolitical views held by policy makers promote caregiving in families as the best kind of care for children and elders (Bunting, 1992; Lewis & Meredith, 1988; McDaniel & Gee, 1993; Tarman, 1994; Wuest, 1994). Furthermore, public policy on caregiving

influences the flow of resources to families (House, Umberson, & Landis, 1988; McDaniel & Gee, 1993). Formal resources are often needed to supplement the resources of informal family caregivers to cope with caregiving when the burden from health deterioration of the recipient becomes too much or when essential supportive elements are missing in the informal network (Chappell & Blandford, 1991; Gottlieb, 1991). Caregiving ought not be left to the woman alone; assistance is the responsibility of the community at large (Bunting, 1992; Lewis & Meredith, 1988; Tronto, 1992).

The nature of families is changing, and individuals spend more time in family roles than they did in the past (Chappell, 1992). Although families are a source of caring in our society, a review of family research has shown that the demands of long-term caregiving can dramatically affect family relationships (Ell, 1996). Communications during illness have many opportunities to break down. In addition, not all relationships in social networks, including family relationships, involve provision of support. Some relationships may be conflicted and associated with psychological distress (Barrera, 1981, 1986).

Because of the association of social support with health status, health behaviour, and the use of health services (Stewart, 1993), providing social support to families has been a principle of nursing practice (Walker, 1992), a concept of great theoretical interest, and an important area of nursing research (Norbeck, 1988). Nursing care to families cannot be limited to the provision of information and instrumental services without also assessing the informal social network.

Family caregivers' perceptions of the experience of social support and the burden of care responsibilities differ over time; "the task changes over time often in response to particular triggers, whether social ... or physical" (Lewis & Meredith, 1988, p. 7). New caregiving commitments during life transitions are associated with changes in the network composition and structure (Gottlieb, 1991; Suitor & Keeton, 1997). Informal social networks are not as stable as previously thought (Morgan, Neal, & Carder, 1997; Suitor & Keeton, 1997; Suitor, Wellman, & Morgan, 1997); requiring repeated analysis of the perceived support from the network members. For this reason, interventions need to be guided by the woman's subjective experience of both support and conflict within her informal network. Within this context, resources need to be directed to providing support, facilitating and optimizing involvement of significant others, assisting caregivers in understanding relational conflicts (Stewart, 1995; Stewart, Ritchie, McGrath, Thompson, & Bruce, 1994), and adapted to the issues current for the stage of life. The assessment of caregivers' perceived satisfaction with personal relationships (Barrera, 1981) and their orientation toward utilizing the informal and formal network resources is important information for intervention (Israel, Hogue, & Gorton, 1984).

For women, two life phases that involve stressful caregiving commitments are caring for a premature infant and caring for a relative with cognitive impairment. The structure of and personal relationships of the social networks of women caregivers in these two life situations are the focus of this study.

Purpose

The purpose of this study was to examine differences in the size and composition of social networks for women in two different caregiving situations: mothers of premature infants and women caregivers of cognitively impaired older adults. The women's perceived satisfaction with support was also described.

Research Questions

Size of the social network

Is there a difference between the size of the *available* social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

Composition and type of support of the social network

Who are the sources of each type of support in the *available* social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

Is there a difference in the proportion of kin in the total informal social network in the sources of *available* support for women caregivers of cognitively impaired older adults and mothers of premature infants?

Is there a difference between groups in the number of married women who report their spouse as a source of support for *private feelings* support in the *available* social networks?

Conflicted interaction

Who are the sources of conflict in the social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

Is there a difference in the proportion of kin to nonkin in the conflicted informal social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

Perceived satisfaction

What is the difference in perceived satisfaction for each type of support in the *utilized* social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

Definition of Terms

Perceived social support: "the concept that characterizes social support as the cognitive appraisal of being reliably connected to others"; it incorporates two dimensions: perceived availability and perceived adequacy of support ties (Barrera, 1986, p. 416).

Primary caregiver: includes both live-in and live-out caregivers who provide the most personal care tasks for the care recipient or family member and who are part of the informal, unpaid network. Caregiving in this study is voluntary, and the primary caregiver assumes responsibility for the dependent adult or child (Neufeld & Harrison, 1990).

Social network: "the web of social ties that surround an individual" that may or may not be supportive (Berkman, 1984, p. 414).

Social support: any input provided to assist with emotional issues, physical assistance or material aid, or to impart guidance (Caplan, 1976).

Support satisfaction: a subjective evaluation of one's personal experience of the forms of functional support in the informal network with the cognitive appraisal that the support was "just about right" (Barrera, 1981).

Types of support: the functional content of relationships:

(a) material aid (in the form of money or other physical objects), (b) physical assistance (sharing of tasks), (c) private feelings (interacting in a manner such that feelings and personal concerns are expressed), (d) advice (offering advice and guidance), (e) positive feedback (providing individuals with information about themselves), (f) social participation (engaging in social interactions for fun, relaxation, and diversion from demanding conditions; Barrera, 1981)

Total available network size: "the number of people who were perceived as being potentially available for at least one form of support" (Barrera, 1981, p. 93).

Total conflicted network size: the number of support-network members who offered at least one positive form of support and reported sources of interpersonal conflict in the past month (Barrera, 1981, p. 76).

Total utilized network size: the number of individuals reported to have actually provided at least one form of support in the past month (Barrera, 1981, p. 94).

CHAPTER 2

Review of the Literature

Women's health patterns are strongly influenced by their social roles and the restraints of these roles. The demands of looking after family members often conflict with women's attempts to look after themselves (Green, 1994). Social networks have been found to affect health behaviour (Stewart, 1993) and a network of confidants and personal relationships may reduce stress levels. Coping with difficult life events may depend on involvement with a network of personal relationships and changes in the network that allows for assistance in meeting the demands (Morgan & March, 1992). Caring for an infant born prematurely or for an elderly relative with dementia are examples of two stressful family caregiving situations women may encounter. Social support may buffer the effects of stress on the woman's health and well-being (Brody, Litvin, Hoffman, & Kleban, 1995; Cohen, Teresi, & Blum, 1994; House, Umberson, & Landis, 1988; Israel, 1982; Israel, Hogue, & Gorton, 1984; Levitt, Weber, & Clark, 1986; Mc Naughton, Patterson, Smith, & Grant, 1995).

A computer literature search of peer reviewed journals was conducted for the key terms of social networks, social support, caregivers and Alzheimer's disease, mothers and premature infants for the years 1982 to 1997. In this review of the literature, I will examine the findings from the relevant literature on social networks including size, density, composition, and homogeneity of relationships. Research findings on the types of support available and utilized from the informal social network, perceived satisfaction with the support provided, and conflicted interactions within relationships will be presented. Although not a focus of this research study,

formal social support from professionals will be addressed in relation to the informal network. The limitations of the research literature will be summarized.

To provide an introductory context for the study, literature related to women's experience in caregiving for infants and elders will be briefly addressed. An introduction to concepts central to the focus of the study including social relationships, social support, and health will also be discussed.

Women Caregivers

Role changes or status transitions (e.g., transition to parenthood, caregiving of a disabled elderly parent or spouse) can produce profound change in the structure, composition, and functional resources in informal networks (Gottlieb, 1991; Suitor & Keeton, 1997). "Status transitions can have long-term consequences for interpersonal relationships; . . . sources of support are likely to vary substantially according to the specific life event or problematic situation at hand" (Suitor & Keeton, p. 60). As well, stressors affecting caregivers are continually changing, creating ongoing changes in support requirements; the different types of support cannot be substituted for one another (Gottlieb, 1991). When networks are unsupportive in specific life events, or role changes, replacement of existing relationships may include key relationships or the entire network (Morgan & March, 1992). Individuals establish supportive relationships with those similar on important social dimensions (homophily theory) because those with shared values and similar life experience are the most supportive and the least critical of each other (Morgan & March, 1992; Suitor & Keeton, 1997; Suitor, Pillemer, & Keeton, 1995).

Caring for a cognitively impaired relative. The stress and burden associated with caring for a relative with dementia has been extensively researched (Carlson & Robertson, 1994; Cossette, Lévesque, & Laurin, 1995; Cohen et al., 1994; Dorfman, Holmes, & Berlin, 1996; Grafström & Winblad, 1995; Jivanjee, 1994; Lévesque, Cossette, & Laurin, 1995; Morris, Morris, & Britton, 1989; MaloneBeach & Zarit, 1995; MaloneBeach, Zarit, & Farbman, 1995; Morgan & March, 1992; Pagel, Erdly, & Becker, 1987; Redinbaugh, MacCallum, & Kiecolt-Glaser, 1995; Robinson, 1990b, Robinson & Steele, 1995; Suitor & Pillemer, 1993; Thompson et al., 1993; Townsend & Franks, 1995; Semple, 1992; Williamson & Schulz, 1993).

The caregiving task is considered arduous (Rakowski & Clark, 1985; Thompson et al., 1993). Pressing problems for caregivers of relatives with cognitive impairment are (a) the need for supervision relief, (b) sleep disturbances, (c) difficult behaviour management, (d) incontinence (Wenger, 1994), and (e) resistance to other caregivers (Jivanjee, 1994). Williamson and Schulz (1993) have reported that the stressors most commonly identified by caregivers ($N = 174$; 70% women) of relatives with Alzheimer's disease are memory difficulties, loss of ability to communicate, and decline of the loved one. Of primary caregivers of elderly persons with dementia, 61% reported interpersonal stress in their new caregiving role (Suitor, Pillemer, & Keeton, 1995).

Some caregivers experience dramatic fluctuations in mood and negative affect in relation to variations in daily stressful events (MaloneBeach et al., 1995). Caregiver depression and strain are associated with lower levels of social support (Morris, Morris, & Britton, 1989). In a study of a subsample of 61 elderly people with dementia in Liverpool,

England, 70% of the caregivers were women (daughters, 43%; spouses, 25%; sons, 20%; Wenger, 1994). More than half of the caregivers had withdrawn from social activities and 23% reported no visitors to the home.

The perceived burden of caregiving for a relative suffering with dementia (using the Diagnostic and Statistical Manual of Mental Disorders criterion, DSM III-R) reported by spouses and adult children ($n = 219$) was higher than the burden reported by relatives in the nondemented elderly group ($n = 255$; Grafström & Winblad, 1995). In this longitudinal study in Stockholm, female caregivers reported the greatest burden and the burden was reported highest when the relative with dementia was in the phase of mild dementia: "The disturbed behaviour factor score correlated highest with perceived caregiver stress" (p.80).

The status of the marital relationship can affect the spouse's perception of burden. In a study of 78 older wife caregivers ($M = 67.5$) of husbands impaired with dementia, using a Marital Adjustment Test with good reliability and validity measures, "caregivers with unhappy past marriages interpreted their caregiving experiences as more oppressive": Past marital adjustment was significantly related to reported subjective burden (Robinson, 1990b, p. 199).

Caring for a premature infant. In a literature review, Stewart et al. (1994) concluded that little research has been done on the association of social support with caregiver burdens of mothers. Four studies were found to examine maternal stress and support with premature infants (Crnic & Greenberg, 1987; Boukydis, Lester, & Hoffman, 1987; Hodapp, Young, Algieri, & Minde, 1992; Logsdon, Davis, Birkimer, & Wilkerson, 1997) and one qualitative study examined the parental trauma with premature infants

(Hayunga, 1993). Stressors were found to be greater in the early postpartum months in studies of mothers with premature and fullterm infants (Boukydis et al.; Logsdon et al.; Hodapp et al.). Hodapp and colleagues have conducted a longitudinal study of the maternal reactions of mothers of premature infants (N = 22) from the first two weeks postpartum to 14 months after birth and found mothers experienced a period of emotional disorganization characterized by feelings of shock, disbelief, guilt, despair, and mourning until four months. As well, mothers of premature infants with smaller networks reported more worries about having relatives visit and had more adjustment difficulty (Crnic & Greenberg, 1987).

Having a baby cared for in intensive care, which often occurs when mothers deliver a premature infant, is a stressful experience (Hayunga, 1993; McHaffie, 1992). In a study of mothers of both term (n = 14) and premature babies (n = 13), both groups of mothers were found to experience similar adjustment difficulty: A smaller network size was significantly associated with greater adjustment difficulty (Boukydis et al., 1987). In a Canadian study, using a qualitative method of narrative inquiry, the experiences of parents with premature infants, were described as fears of death when the infant came home, feelings of intimidation and emotional pain of having an infant in NICU, and the trauma of the experiences (Hayanga, 1993).

Social Relationships, Social Support, and Health

Conceptual Issues

The social network is the web of social ties which surround an individual (Berkman, 1984), and comprises personal relationships which are the source of support. Researchers agree that social support is a

multidimensional construct with diverse interpretations (Barrera, 1986; Chappell, 1992; House et al., 1988; Stewart, 1993, 1995; Walker, 1992). An early view described support as any input provided to assist with emotional issues, physical assistance, material aid, or guidance (Caplan, 1976). In the context of this study, perceived social support available from the social network is the cognitive appraisal of being reliably connected to others and includes perceived availability and perceived adequacy of support ties (Barrera, 1986).

Social Support and Health

Researchers have found significant associations among the structures (quantity) and the processes (quality) of social relationships, health, and illness (Barrera, 1986; Berkman, 1986, 1995; Gottlieb, 1991; House, Umberson & Landis, 1988). "Social relationships have effects on mortality, and perhaps morbidity, which rival those of most other known biomedical and psychosocial risk factors" (House et al., p. 300). Although the causal direction of the processes is ambiguous, evidence suggests that social integration is associated with healthier behaviours (House et al., 1988). Measures of social integration or isolation have been the most consequential for health: High mortality risks are associated with low levels of social integration and social ties (Berkman, 1986, 1995; Cerhan & Wallace, 1997; House et al., 1988).

Social support processes include the provision of various types of functional support: instrumental, affirmational, emotional, and informational assistance (House et al., 1988). Tangible aid may increase quality of life (Berkman, 1995; Chappell & Blandford, 1991). The quality of emotional support is most evidently linked to health outcomes (Barrera, 1986; Seeman

& Berkman, 1988; Chappell, 1992; Gottlieb, 1991; House et al.). Furthermore, negative interactions may have a more powerful negative consequence on health than the positive consequences on health of positive interactions (House et al.).

On the basis of her review of the literature, Berkman (1986, 1995) concluded that the research evidence supported an association of emotional support with neuroendocrine function and decreased cardiovascular reactivity. For example, significant levels of decreased cellular immune responses were measured in spousal caregivers ($n = 69$) of dementia victims in a 13-month longitudinal study as compared to matched control subjects ($n = 69$; Kiecolt-Glaser et al., 1991). Spousal caregivers who showed the greatest immunological declines reported significantly fewer important personal relationships, less closeness and helpfulness ratings than the control group (Kiecolt-Glaser et al.).

Elderly persons. Previous research suggested an association of the qualitative aspects of relationships with psychological well-being (Israel, Hogue & Gorton, 1984). For example in a retrospective study of close social networks of elderly women between the ages of 60-68 years ($N = 130$), reciprocal affective support (having a confidant), affective support without reciprocity (the extent of counting on moral support), and the intensity and degree of closeness were significantly associated with psychological well-being (Israel et al., 1984).

Caregivers of elderly. In a review of the literature Schulz, Visintainer, and Williamson (1990) concluded that depression in caregivers is the most frequently studied psychiatric symptom among caregivers. For example, Brody, Litvin, Hoffman, and Kleban (1995) found that lack of intimate

confiding relationships maybe one of the risk factors for depression for women caregivers caring for spouseless elderly parents. In this study of 522 parent-caring daughters who were self-selected and caring for an elderly parent, the married daughters reported close support from the partner or husband and the women who were not married or who lacked a confidant had significantly higher levels of depression than the married women (Brody et al., 1995). In a recent study of kinship relationships of wives (n = 103) and daughters (n = 149) caring for their elder spouse or parent, Li, Mailick Seltzer, and Greenberg (1997) found that social participation had a significant inverse effect on the daughters' depression scores and no effect on the wives' scores. As well, emotional support to both groups buffered the stress of caregiving. Interestingly, caregiving support (i.e., providing assistance with daily care) did not have a reported effect on depressive scores for either group.

One study examined the available social network and caregiver satisfaction. Dorfman et al. (1996) reported that the caregiver's perceived certainty of the availability of support from the social network (e.g., friends, relatives, and neighbours providing help in the last year) significantly predicted wife caregiver satisfaction. Interestingly, the number of visits, phone calls, and frequency of aid showed no relationship to either caregiver satisfaction or strain (Dorfman et al.)

Caregivers of a relative with cognitive impairment. Deficits in social support were associated with depressive disorders in caregivers of older persons caring for a relative with progressive dementia (Redinbaugh, MacCallum, & Kiecolt-Glaser, 1995). In a 3-year longitudinal study of primary caregivers of family members with dementia (N = 103; 71%

women), 53% reported a syndromal depressive disorder and the symptoms were associated with deficits in social support (Redinbaugh et al.).

Two studies examined spousal support of caregivers of a cognitively impaired relative. Franks and Stephens (1996) studied elderly parents with cognitive impairment, their married caregiving daughters, and their daughter's husbands (using a convenience sample and controlling for parent impairment). They reported that husband support was associated with marital satisfaction in the wife caregivers. As well, physical health of the women was positively associated with instrumental support provided by the husbands to the frail elderly parent. However, Franks and Stephen found no evidence that support mediated or offset the psychological distress associated with caregiving. In a related study, Dorfman, Holmes, and Berlin (1996) found with wife caregivers ($N = 80$) of a cognitively impaired husband (>55 years), that support from the spouse (e.g., appreciation, empathy, and affection; rated 0-10) was the strongest predictor of satisfaction with caregiving.

Another study examined social network structure, composition, and health outcomes among caregivers of persons with dementia. Pillemer and Suitor (1996) compared the number of other caregivers in the network and depression scores using the CES-D scale with caregivers ($N = 254$, 83% female) of care recipients with dementia. They found that the number of other caregivers in the social network was inversely related to depression: The other persons with caregiving experience reduced the psychological stress.

Two studies examined conflict with members of their social network and health outcomes for caregivers of a relative with dementia. Lévesque,

Cossette, and Laurin (1995) found an association with psychological distress in the caregiver and the extent the caregivers (N = 265, 60% women) reported both disruptive behaviours of the care-recipient and personal disturbance by these behaviours. In a study of women caregivers (N = 57) of cognitively impaired elders, conflicts that lack overt aggression were "typified more by frustration, irritation, alienation, unfulfilled expectations and hurt [and]...may include acts of omission and commission and can occur in the context of good intentions" (MaloneBeach & Zarit, 1995, p. 25). In this study of women caregivers, low amounts of social conflict (i.e., both emotional and informational conflict) were significantly associated with depression: "A little bit of conflict goes a long way" (p. 34).

In a related study of adult caregivers (N = 90, 64% daughters) of elderly impaired parents with functional and cognitive impairment living in separate households (77% mothers), Townsend and Franks (1995) found that greater cognitive impairment was significantly associated with both less closeness and high conflict. Furthermore, greater conflict between the caregiver and care-recipient was significantly related to greater depression in the caregiver (Townsend & Franks).

Mothers of fullterm and premature infants. Two studies linked intimate social support with perceived life satisfaction in both mothers of premature infants and mothers of infants born at term. In a longitudinal study of mothers of premature infants (n = 52) and mothers of full term infants (n = 53), intimate social support moderated the effects of high life stress and maternal functioning in the early months following birth (Crnic & Greenberg, 1987). In both groups, mothers at one month who had high stress and high intimate support reported significantly greater life satisfaction than mothers

with high stress and low support. In a second cross-sectional study of 83 mothers with healthy newborns and hospitalized newborns, greater support from a close person was positively correlated with greater satisfaction with the relationship. Greater life satisfaction mediated the maternal attitude toward the infant in those mothers with distressed infants (Coffman, Levitt & Deets, 1990; Coffman et al., 1991).

Fewer studies were found that linked social relationships and depressive disorders in mothers with infants. In a recent study Logsdon, Davis, Birkimer, and Wilkerson (1997) reported that depression was significantly inversely related to perceived social support at four weeks post hospital discharge in mothers of premature infants. Hodapp et al. (1992) in a study of mothers of premature infants from 2 weeks postpartum to 14 months found the strength of the mother-father relationship was positively related to the mother's adaptation level and inversely related to maternal despair.

Among parents of fullterm and premature infants, those with smaller networks had more adjustment difficulty (Boukydis et al., 1987). The findings of a related study of 34 mothers of premature infants and 20 mothers of fullterm infants at six months of age (Zarling et al., 1988) suggested that high-density networks for mothers of premature infants increased maternal distress. The close relationships within the network were found to reinforce maternal helplessness and confusion in dealing with the adjustment to the event of a premature infant.

Some association was found linking social relationships and depressive disorders in related populations. A well-designed Canadian study reported findings on mothers experiencing chronic parenting stress caring for a deaf

child (Quittner, Glueckauf & Jackson, 1990). The mothers of the children with hearing loss ($n = 96$) experienced significantly higher levels of stress, felt less competent, had smaller social networks, decreased perceived support, and greater psychological distress than similar mothers in the control group ($n = 118$).

Social Support Models and Health

Several competing hypotheses have been proposed to examine the relationship of support to health: the direct (main) effects hypothesis and the indirect (buffer) effects hypothesis (Chappell, 1992; Cohen, Teresi, & Blum, 1994; House, Umberson, & Landis, 1988; Stewart, 1993, 1995; Walker, 1992). In the main effects hypothesis, social support independently enhances well-being at varying levels of stress primarily through social integration (Cohen et al., 1994; House et al., 1988; Stewart, 1995). The view of social support as a buffer suggests that in the presence of support during stressful events there is an increasing protection of individuals and diminishing manifestations of harmful influences (Cohen et al., 1994; Stewart, 1995). Most research studies have been done on the buffering effects of social support in acute-stress events; little research has been done on the chronic stress and daily hassles experienced in caregiving for elders (Chappell, 1992).

Recently, Antonucci, Fuhrer, and Dartigues (1997) reported that "subjective measures of social support are more important than objective social network measures of social relations, especially with regard to depressive symptomatology" (p. 189). It is important to distinguish between the personal, subjective perceptions of support and the actual expression of

support by others (Stewart et al., 1994). Perceived support has emerged as a concept most commonly used in research (Barrera, 1986).

Barrera (1986) found a negative association is most evident between perceived social support measures and distress or illness measures. This negative association is consistent with the support deterioration model: Life stress influences the deterioration of perceived support, which in turn is associated with increases in psychological distress (Barrera, 1986; Coffman, Levitt, Deets, & Quigley, 1991; Quittner, Glueckauf & Jackson, 1990; Robinson & Steele, 1995; Stewart, 1993, 1995). Perceived social support acts as an intervening or mediating variable.

Social Networks

The research on social relationships and social support has consistently demonstrated the beneficial effects of social integration and social support on health. There has been less research addressing social networks (House et al., 1988). House et al. reported that "density, reciprocity, sex composition, and perhaps homogeneity seem to be the most promising network structure variables; i.e., networks of small size, strong ties, high homogeneity, and low dispersion are helpful in maintaining social identity, health, and well-being outcomes" (p. 304). More recently Antonucci et al. (1997) found in their random sample of community elderly ($N = 3,777$), that the size and composition of the network were significantly related to depressive symptomatology: The elderly community residents with "larger networks were less likely to be depressed and people with only friends in their network reported higher levels of depressive symptomatology than people with equal members of family and friends" (p.191).

The association of mortality risks and social ties may vary according to the subpopulation. In a recent longitudinal study, Bosworth and Schaie (1997) found that although social networks and perceived social environment of adults ($N = 387$) showed only a small association with variance in health outcome, an analysis of subgroups displayed a strong association between health outcomes and social relationships. In this study individuals ($n = 52$) identified as having the lowest levels of perceived social environment had the greatest health problems compared to the total sample. As well, lower perceived social environment was associated with higher health service utilization for unmarried individuals in the total sample as compared to married individuals.

However in earlier studies, researchers using small samples did not find a significant correlation between network size and health status. For example psychological health status of the caregiver was not influenced by the social network size in primary caregivers of dementia sufferers in a study of 58 patient-spouse caregiver dyads (Cohen et al., 1994). As well, Stoller & Pugliesi (1991) in a longitudinal study of elderly and their informal networks found that the elderly person's physical health status and functional status was not associated with network size. In a literature review, Israel, Hogue, and Gorton (1984) concluded that in the early research on social networks, conflicting findings were found on the structural and interactional effects of social networks on health.

Theoretical Perspectives on Mobilization of Support from the Network

Three models have been described in the literature to explain the mobilization of helping support in networks of mature adults (Antonucci, 1991) and the support networks of caregivers of elderly persons (Chappell

& Blandford, 1991; Miller & McFall, 1991; Stoller & Pugliesi, 1991). Several authors have described the hierarchical compensatory model (Chappell & Blandford, 1991; Miller & McFall), the shared functioning model (Chappell & Blandford, 1991; Miller & McFall; Stoller & Pugliesi), and the convoy model (Antonucci, 1991, Miller & McFall, & Stoller & Pugliesi). The hierarchical compensatory model refers to the availability of helpers and the preferential ordering of helping by kin before nonkin. The model describes network size increasing to meet demands hierarchically first by spouses, then by adult children and other family and followed by friends. The availability and proximity of members predict the composition and size of the network (Chappell & Blandford; Miller & McFall).

In contrast, the shared functioning model proposes that in relation to the primary group, there is an increase in scope of assistance and the size of the network as members respond to greater frailty of the older person and take on different types of tasks in accordance with their specific relationship to the caregiver (Chappell & Blandford, 1991; Miller & McFall, 1991; Stoller & Pugliesi, 1991). For example, spouses are better able to provide daily tasks, and kin and friends help with temporary needs. The need of the elderly person predicts the network size and composition.

In the convoy model, mature adults meet additional care needs and burdens through those in the inner circle—friends and kin—with no change in the network size (Antonucci, 1991; Miller & McFall, 1991; Stoller & Pugliesi, 1991). Although there is stability in network size in adult life, there may be a loss of personal relationships with aging. Antonucci (1991) states this model assumes a hierarchical order in the closeness of social relationships and proposes that some members who are considered

intimately connected will take on additional roles to meet family needs. In a longitudinal study of elderly people (n = 173) interviewed seven years later, the informal network expanded the scope of their help to provide care to the older person (Stoller & Pugliesi). Hierarchical relationships are based on the closeness of social relations; a concept derived from attachment research of mother-child relationships (Antonucci, 1991). Some relationships are more significant than others, for example, relations with spouse, children, and parents. Secondary relationships, for example, would be other relatives and friends.

Network Structure

In describing the network structure, size, and composition, each will be discussed separately including information about: adults in general, caregivers of elderly, caregivers of elderly with cognitive impairments, mothers with infants, and mothers with premature infants. Information about network characteristics of adults and caregivers in similar situations provides background information useful for understanding the social networks of caregivers of a relative with dementia or an infant born prematurely.

Size and Density

Adults. Networks consist of a persistent core of strong ties (20 or fewer) and a periphery of contacts (1,000 or more) that are regularly replaced (Suitor, Wellman, & Morgan; 1997). However, a larger set of acquaintances is inactive at any given time (Morgan, Neal, & Carder, 1997). The frequency of contact is associated with persistence of ties in the network (Suitor & Keeton, 1997).

Elderly persons. Most elderly people have extensive social contact. In a Winnipeg study the average network size was 30 individuals (Chappell & Blandford, 1991). The networks of elders over 85 years of age had similar characteristics, whether they suffered from severe or slight health difficulties with a range of members of 1 to 20 (median = 4; Bowling & Browne, 1991). In a recent study in France, most community residents over the age of 65 years (N = 3,777) had eight or more people in their networks (Antonucci et al., 1997).

Caregivers of elderly persons. The caregiver's network size is not influenced by the increasing functional disability of the elderly care recipient (Bowling & Browne, 1991; Cohen et al., 1994; Miller & McFall, 1991). Instead, as the need for support increases, families take on the extra burden of care for the elders and expand the range of help given (Bowling & Browne, 1991; Stoller & Pugliesi, 1991). In a longitudinal study of the 1982-1984 U. S. Informal Caregivers Survey (n = 644) of elderly over 65 years of age, larger helper networks of the primary caregiver in the subsample were uncommon (M = 1.69-1.77; range 0-8) and furthermore at the beginning of the study, distant kin and nonkin helped in less than 20% of networks involving a spouse (Miller & McFall).

Caregivers of a relative with cognitive impairment. One study of caregivers of persons with Alzheimer's disease, reported a network mean size of 25 members (Cohen et al., 1994). A range of 7 to 11 contacts per caregiver was found in two studies of networks of spousal caregivers of persons with dementia (Carlson & Robertson, 1994; Pagel, Erdley, & Becker, 1987). Lévesque, Cossette, and Laurin (1995) reported a mean network size of 9 (range = 1-15, SD = 3.95) in a study of caregivers

(N = 265) caring for a relative with dementia (network size was assessed up to 15). However, in a qualitative study using focus groups in a sample of widows (n = 49) and spousal caregivers (n = 76), the caregivers of relatives with Alzheimer's disease reported a smaller network size (M = 6.6) compared to the widows in the study (M = 12.6; Morgan & March, 1992). Caregivers in this study were found to make fewer attempts to mobilize support, blamed others for dropping contact, and reported withdrawal from their personal networks (Morgan & March, 1992).

Mothers of fullterm and premature infants. Few studies were identified that addressed the network size of mothers with infants born either at term, or prematurely, or mothers of young children. The mean network size of mothers with infants treated in intensive care units (n = 47) and mothers with healthy infants (n = 36) were 16 with 6 of those listed as "so close" that "it's hard to imagine life without them" (Coffman, Levitt, Deets, & Quigley, 1991, p. 93). In a second study of mothers (N = 43) with infants 13 months of age, the mean was 13 persons in the network with 4 in the inner or closest circle: husbands and children followed by the mother's parents (Levitt, Weber, & Clark, 1986). In a third study of parents of premature infants, the network size was close to eight for parents of premature infants (Zarling, Hirsch, & Landry, 1988).

In a related study the social networks of mothers of older children were examined. The size of the available network as measured by the Arizona Social Support Interview Schedule (ASSIS) was significantly larger for the control group of mothers with healthy children (M = 11.3) as compared to the mothers of hearing impaired children (M = 9.72; Quittner, Glueckauf, & Jackson, 1990). Munch, McPherson and Smith-Lovin (1997) conducted a

recent study of the social networks of men and women in child rearing years (N = 1,050) and reported a mean size of 2.57 others with whom the mothers discussed important matters. The mother's average network size was largest when the mother's youngest child was an infant and smallest when the youngest child was between 3 and 4 years of age as compared to women with older children (Munch et al.).

Composition of the Social Network

Adults. Recent research with adults has found that there is a *probability of inclusion* in the periphery of social networks that result in fluctuating membership over time; thus the likely appearance of important social ties in the periphery of the networks is unstable (Morgan, Neal & Carder, 1997). In a longitudinal study of 376 widowed women interviewed seven times over 1 year, researchers found "limited ability to predict who was in the network [from] one time to the next" (Morgan et al., 1997, p. 14). Friends make up the larger portion of the social network (Morgan et al., 1997). Other researchers found in examining adult kinship relationships that the most broadly supportive of all role types was the parent-adult child, and the least likely to provide any dimension of support were the extended kin (Wellman & Wortley, 1990). Antonucci et al. (1997), found in their large random sample of elderly in France, that the highest percentage of elderly indicated their network consisted of *all* family (42%).

Caregivers of elderly. In the longitudinal study of the U.S. Informal Caregiver Survey, Miller and McFall (1991) have reported 51.5% of the spousal caregivers of frail elderly continued in their role 2 years later and if a shift in the helping social network occurred, the tendency was to add helpers and kinship care remained strong: Adult children were most often

reported as helpers (19.4%) and only a small percentage (2.1%) of families shifted the care from the spouse entirely to the adult children.

Caregivers of a relative with cognitive impairment. Two studies addressed the composition of the caregiver's social network. The primary caregiver may receive help with direct care from one or two members within the network. Penrod, Kane, Kane, and Finch (1995), found, in a well-designed study of 242 primary caregivers (84% adult daughters) of relatives with Alzheimer's disease, 7% reported no help from anyone, and 88% reported one helper. However, in this study, primary caregivers of a spouse with Alzheimer's disease were the least likely to receive direct support from secondary helpers within their social network, and of the women caregivers (daughters, daughters-in-law, other relatives) only 45% of husbands were secondary helpers to their wives (Penrod et al., 1995). In a second study Pillemer and Suitor (1996) found that caregivers (N = 254) to elderly relatives with dementia had an average of 4.5 other persons with caregiving experience in their social networks and only 14 (5.5%) had no associates with caregiving experience.

Mothers of infants. Less attention has been given in the literature to the composition of the social networks of mothers with infants. In a recent study, Munch et al. (1997) found that in their analysis of networks of men and women (N = 1,050) in child rearing years, that both men and women's networks had a higher proportion of kin to the total network size during their youngest child's first few years compared to men and women with older children. However after the youngest child is two years of age, the kin to total network size ratio declines for women as their child's age increases and more friends are included in the network.

Mothers of premature infants. Few studies have been published regarding the support networks of mothers with premature infants. In an older study, Feiring, Fox, Jaskir, and Lewis (1987) studied Hispanic mothers of term ($n = 44$) and premature ($n = 45$) infants at three months of age and found their support networks consisted of significantly more relatives than friends. Additionally, Boukydis et al. (1987) found that parents of premature infants reported their spouses, other parents of premature infants, and their own mothers as sources of support.

The maternal grandmother or own mother was identified in two studies as an important source of support (McHaffie, 1992; Levitt, Weber, & Clark, 1986). McHaffie in a study in Scotland of parents with low-birth weight babies has found parents looked to the grandparents, particularly the mother's own mother, for emotional support which was demonstrated by the grandparent visiting the baby, listening to the mother, and being available.

Homogeneity

Homogeneity refers to the degree to which network members have similar social attributes (Israel, 1982, p. 67). Homogeneity and experiential similarity are important characteristics of social networks for persons in life transitions such as assuming a new caregiving role (Suitor & Keeton, 1997). With major life events there is a large turnover in networks (Morgan & March, 1992; Suitor et al., 1995). Furthermore, ability to cope with undesirable life events depends on how well personal networks can meet the demands (Morgan & March).

Adults. Although this literature review addressed primarily women caregivers, information about support of other adult women may provide a

useful context. A study addressing sources of emotional support of midlife women (N = 42) returning to college, is one of the few longitudinal studies that followed social ties over a 10 year period (Suitor & Keeton, 1997). The researchers found that perceived emotional closeness and status similarity significantly predicted the network associate to be named 10 years later.

Caregivers of elderly. Friends were more likely to be a source of support to married daughters caring for parents if the friends had also provided care to an elderly relative (Suitor & Pillemar, 1993). Suitor, Pillemer, and Keeton (1995) concluded from their study of primary caregivers of an elderly parent that 61% experienced stress in their new role and experiential similarity was the only variable consistently related to provision of emotional support: Shared experience results in greater support between individuals and less likelihood of interpersonal stress.

Caregivers of a relative with cognitive impairment. No studies were found that addressed homogeneity in the networks of caregivers with dementia.

Mothers of fullterm and premature infants. One study included mothers of premature and healthy infants within the first month after discharge (Boukydis et al., 1987). In this study, mothers of premature infants identified other parents of premature infants as helpful and had significantly higher frequency of contact with these friends than mothers of healthy infants had with their friends.

Types of Support

Although individuals receive and provide many types of support from their personal networks, they usually get the different types of support needed from different network members (Wellman & Wortley, p. 583).

Social networks provide support, information, and belonging (Suitor, Wellman, & Morgan, 1997; Suitor & Keeton, 1997) and community ties for household survival (Wellman & Wortley, 1990).

Adults. Most network members in a sample of adults from a Canadian city were found to provide specialized support and not more than three dimensions of support (Wellman & Wortley, 1990). Furthermore, strong ties provide most of the social support and the broadest range of support: companionship, minor services, and emotional aid. Wellman and Wortley reported the support of kin is not conditional on the strength of the relationship, however, immediate kin are less likely than friends to be companions. In their study, women were more likely than men to provide emotional support to both sexes and mothers and daughters were the most likely within the kin to provide emotional support (Wellman & Wortley, 1990).

Elderly persons. In a study of elderly living in the community in England, Bowling and Browne (1991) indicated that the networks of the elderly person were very important in receiving instrumental help: "the larger the social network the more likely it was to comprise relatives as well as confidants" (p. S29). Relatives were the main helpers of the elderly with tasks of daily living and 86% of the elders living with relatives received help by the relatives compared to 68% of elders who lived alone (Bowling & Browne, 1991). Stoller, Forster, and Duniho (1992) found when parents need only intermittent help, there is no preference for the son or daughter, however, daughters help with a broader range of tasks.

Caregivers of elderly. Several studies examined the types of support provided to caregivers of frail elders. In a study comparing married and not

married women parent-caregivers, the not married parent-caregivers (n = 89) identified an absence of support systems (both instrumental and emotional), increased burden, and greater isolation more than the married parent-caregivers (Litvin, Albert, Brody & Hoffman, 1995). However, although married and remarried daughter parent-caregivers reported more social support from their partners, over one-third of the married daughters in the study reported the disadvantage of competing role demands compared to the unmarried daughters (Litvin et al.).

In another study, Thompson et al. (1993) used the ASSIS to measure types of support with family caregivers (N = 217) who were primarily wives and daughters of frail elders, half of whom suffered from a cognitive impairment. Caregivers experiencing social participation support from family and friends were found to have significantly diminished caregiver burden as compared to caregivers with less opportunity to socialize with kin and friends.

Caregivers of a relative with cognitive impairment. Three studies were found that examined the types of support provided to daughter or spousal caregivers of elders with cognitive impairment. Carlson and Robertson (1994) found that spousal caregivers received socializing support from their partner with dementia, and family members provided socializing support more than other types of support to the spousal caregiver. Suitor and Pillemer (1993) in another study found that the majority of caregiving daughters (N = 256) reported some form of support with providing care to their parent with dementia (97% instrumental, 30% emotional). Friends and siblings were a greater source of emotional support to caregivers providing

care to an elderly relative than their spouse, children, other kin, and formal service providers (Suitor & Pillemer).

In a third study, Cohen, Teresi and Blum (1994) using a cross-sectional design (N = 116) with spousal caregivers and partners with Alzheimer's disease, found that the informal social network provided significantly more sustenance support (e.g., money, food, medical aid) to the spousal caregiver with increased illness severity with no increase in the network size. Cohen et al. reported that only 13% of the informal network members' linkages provided material aid to the primary caregiver while 50% of the informal members' linkages provided affective support.

Mothers of infants. For mothers, husbands were a primary source of support. Two studies addressed close person support in mothers with infants (Levitt, Weber, & Clark, 1986; Logsdon, Birkimer, & Barbee, 1997) and one study addressed close person support in mothers with distressed infants and healthy newborns (Coffman, Levitt, & Guacci-Franco, 1993). In a study of 43 mothers of 13 month old infants, husbands provided significantly more emotional support than the grandmothers; the marital relationship was the primary source of support (Levitt et al.). Mothers may indicate a decline in closeness of the relationship with their spouse. In a longitudinal study of close relationships of mothers (n = 43) of fullterm, premature, and high-risk infants at 1 month and 13 months of age, although 84% of women were married, only 58% selected the husband as the closest relation at 13 months compared to 69% of mothers selecting the husband as the closest relation at 1 month (Coffman et al, 1993).

In another study of mothers (N = 50) at six weeks postpartum, Logsdon, Birkimer, and Barbee (1997) found that spouses were listed most

frequently (80%) as a provider of support to the wife in eight domains (e.g., daily concerns, inability to carry out activities due to short-term illness, and immediate help with urgent needs). The majority of women reported they needed help at home in the domain of daily concerns (Logsdon, Birkimer, & Barbee).

Mothers of premature infants. Five studies addressed the types of support of mothers of premature infants. Feiring et al. (1987) found in a study of mothers of premature infants ($n = 45$) and mothers of fullterm infants ($n = 44$) at 3 months of age, that the provision of goods (e.g., clothing, furniture, and baby supplies) was the type of support most frequently reported by both groups of mothers. However, mothers of premature infants reported significantly smaller social networks providing goods ($M = 4.13$) as compared to mothers of fullterm infants ($M = 6.0$). Furthermore, the father's behaviour in both groups of fullterm and premature infants of providing services (e.g., babysitting and household chores) was positively correlated with maternal behaviours of holding, touching, kissing, and rocking the infant.

In a related longitudinal study, Crnic and Greenberg (1987) reported that the perceived maternal postpartum support from a spouse and the availability of friendship support in the network produced significant effects on maternal attitudes. Their research revealed that the intimate support from the partner produced significantly stronger effects across the first year postpartum.

Logsdon, Davis, Birkimer, and Wilkerson (1997), although they did not specify types of support, found that the mothers of premature infants reported post-discharge that social support was more important than

expected. Kaufman and Hall (1989), in a study examining support with breast-feeding in mothers with premature infants described the husband or partner as a source of support (75%) to breast-feeding mothers. Finally, Boukydis et al. (1987) reported highly involved fathers of premature infants were more likely to do only household tasks as compared to highly involved fathers of fullterm infants who do both household tasks and child care.

Perceived Satisfaction with Support

Perceived satisfaction with support is a cognitive, subjective appraisal of the adequacy of supportive ties as helpful and is a critical measure that has been interpreted as predictive of well-being and negatively associated with distress (Antonucci, Fuhrer, & Dartigues, 1997; Barrera, 1981). The measurement of perceived satisfaction with support maybe a better indicator of well-being than the objective appraisal of network structure (e.g., the network size or the frequency of social contact; Antonucci et al., 1997; Barrera, 1986).

However, the relationship between the subjective measure of perceived support has been found to be correlated with objective measures of support. For example, Barrera (1986) found in his review of the literature that there was a weak correlation between social embeddedness (the number of connections to significant others), enacted support (actions that others perform when they render assistance), and perceived social support. In another study, Seeman and Berkman (1988) found in a random sample of elderly ($N = 867$) that the perceived adequacy of support (i.e., instrumental and emotional) was associated with the number of direct, face-to-face contacts.

Elderly adults. One study examined the association between subjective and objective network measures, perceived satisfaction with support, and health variables. In a study in France, Antonucci et al. (1997) found with elderly living in the community (N = 3,777), that the subjective social support variable of satisfaction with the quality of relationships in the network had a greater effect on depressive symptomatology and accounted for a larger proportion of the variance than the objective network characteristics of size and composition.

Caregivers of a relative with cognitive impairment. One study addressed perceived satisfaction measures. Lévesque et al. (1995) found in caregivers (N = 265) living at home with a relative with dementia that there was a significant association between satisfaction with the frequency of informal and formal support and reported caregiver well-being.

Mothers of infants. One study addressed the subjective appraisal of the social network in mothers of fullterm infants and found an association between perceived social support and the objective measure of size of the provider support categories. Logsdon, Birkimer, and Barbee (1997) found that women at six weeks postpartum (N = 50) had a significant association between perceived satisfaction with social support and the number of support providers for day-to-day concerns. However the overall perceived satisfaction ratings for all types of support were low and the majority of mothers were dissatisfied with the support received.

Mothers of premature infants. Perceived satisfaction in social support measures, particularly satisfaction with spousal support, have been found to be the most influential during the early phases of parenting for developing maternal parenting satisfaction (Crnic & Greenberg, 1987). Crnic and

Greenberg found in a longitudinal study of mothers of premature infants (n = 52) and mothers of fullterm infants (n = 53) in the first year postpartum, that the perceived satisfaction with support sources was more influential than the availability of support in the mothers of premature and fullterm infants for the development of positive maternal parenting measures.

Conflicted Interaction

Problematic and conflicted interaction may have more effect on well-being than positive social interaction. Although studies of healthy, elderly women who are not caregivers are not the focus of this literature review, Rook (1984) in an early study addressed association of the negative interactions and well-being of elderly widowed women (N = 120). The study examined the number of problematic individuals identified in the social network and found a significant association with lower well-being. Social strain may result from "actions by a member of a person's social network that cause the person to experience an adverse psychological or physical reaction " (Rook, 1990, p. 119).

Caregivers of a relative with cognitive impairment. Several studies have addressed conflict of caregivers of a relative with cognitive impairment with members of their social network. In examining unhelpful aspects of networks in a longitudinal study of spousal caregivers (N = 68) of sufferers of Alzheimer's disease with a follow-up 10 months later (n = 38), upset perceptions of caregiver support were consistently related to depression (Pagel, Erdly, & Becker, 1987). Network discord measures in personal relationships between the caregiver and various network members accounted for 20% of the variance in perceived satisfaction whereas helpfulness accounted for less than 1% of the variance (Pagel et al., 1987).

Although there were few instances found in the personal relationships of caregivers where network members were both causes of support and conflict, in a study of 95 married daughters caring for a parent with dementia, siblings were found to be a source of interpersonal conflict to caregivers (Suitor & Pillemer, 1993). The majority of daughters (88%) reported instances of interpersonal stress and 63% stated "*someone* [italics added] should have provided more help with caregiving" (p. S4). As well, those network members similar in age were found to be less likely to be a source of stress.

In an analysis of a subset of the data from the earlier study of caregiver's social networks, Hibbard, Neufeld, and Harrison (1996) found that women caregivers experienced significantly more conflict with family members than men. Finally in a study of 555 caregivers of family members with Alzheimer's disease, spousal caregivers (55%) reported conflict most frequently with adult children, and adult primary caregivers (82%) reported conflict most frequently with siblings (Semple, 1992).

Mothers of infants. In a longitudinal study of 43 postpartum mothers, the expectations the mothers had formed of their relationship with their partners were correlated ($r^2 = .24$) with relationship satisfaction (Levitt, Coffman, Guacci-Franco, & Loveless; 1993). In this study, conflicting expectations between couples occurred when expectations regarding emotional support, shared time, approval of child care methods, and instrumental support with child care were not met.

Mothers of premature infants. No studies were found that examined conflict and members of the social network.

Mothers of young children. The average size of the conflicted support network using the ASSIS was found to be similar in a Canadian sample of mothers (n = 96) with hearing impaired children (M = 2.31) and mothers (n = 118) in a matched control group of mothers whose children were not hearing impaired (M = 2.80; Quittner, Glueckauf, & Jackson, 1990). In a qualitative study, mothers of chronically ill children reported conflicted support primarily with health professionals, but also with family and friends (Stewart et al., 1994). Stressful interactions with partners were described by mothers (25%) in relation to physical child care (Stewart et al., 1994).

Formal Support

Caregivers of elderly. Formal care was found to be less likely in shared households and not correlated to secondary helper network characteristics in a study of 242 caregivers of elderly physically impaired from a sample selected from 3 cities (Penrod, Kane, Kane, & Finch, 1995). In this study the likelihood of formal care increased with each ADL impairment. In a Winnipeg study using a stratified random sample of elderly (n = 1826) over the age of 60 years, functional disability was a predictor of use of formal services (Chappell & Blandford, 1991). Chappell and Blandford (1991) and Cossette et al. (1995), found that with the involvement of formal agencies, informal members continued to provide care.

Mothers of premature infants. In a study of mothers of premature and fullterm infants, mothers of premature infants received more services and visits to health professionals than mothers of full term infants (Boukydis et al., 1987). For both groups of mothers, the use of services was negatively correlated with network size. Telephone calls to health professionals by mothers of premature infants were negatively correlated with the frequency

of contact with other parents of premature infants and the subjective appraisal of the medical staff by both groups of women was supportive (Boukydis et al.). However, in a study of mothers with premature and healthy infants, although the mother's perception of support from the nurse was correlated with greater satisfaction with the nurse, the professional nurse support was not associated with perceived personal outcomes for the mothers (Coffman, Levitt & Deets, 1990).

Limitations of Current Research

Most of the research reviewed employed cross-sectional, correlational designs using measurements of the variables with established reliability and validity. However the results must be viewed with caution because many of the studies used samples that were small and not representative. Most of the findings from the research reviewed cannot be generalized due to the threats to internal validity such as sample bias as a consequence of convenience and quota sample techniques. In caregiving research, sample bias due to a nonrepresentative sample and selection of a population with a high representation of physical and emotional problems is a limitation (Dura & Kiecolt-Glaser, 1990; Schulz, Visintainer, & Williamson, 1990). In their reviews, Dura and Kiecolt-Glaser (1990) and Schulz et al. (1990) concluded that many studies used convenience sampling techniques or provided limited information of the method of selecting participants. In several of the longitudinal studies in this review, threats to internal validity were due to attrition and mortality.

Many of the studies used self-report measures and retrospective self-administered inventories (Schulz, Visintainer, & Williamson, 1990). In correlational studies the reliability and validity of the measurements are of

critical importance (Brink & Wood, 1989). The inclusion criterion for social network measurements is important. In determining social network characteristics, "the network probably will be biased toward people with whom one has positive interactions" (Pagel, Erdly & Becker, 1987, p. 795). In some studies, instruments were reported for the measurement of network composition, structure, and support types but the reliability and validity measures were not given (Bosworth & Schaie, 1997; Boukydis et al., 1987; Chappell & Blandford, 1991; Crnic & Greenberg, 1987; Kiecolt-Glaser et. al., 1991; McNaughton et. al., 1995; Morris, Morris & Britton, 1989; Munch et al., 1997; Pillemer & Suitor, 1996; Seeman & Berkman, 1988; Stoller, Forster & Duniho, 1992; & Zarling, Hirsch & Landry, 1988). In other studies measuring social networks, data was collected by self-report without use of a standardized instrument (Dorfman et al., 1996; Feiring et al., 1987; Miller & McFall, 1991; Penrod et. al., 1995; & Stoller & Pugliesi, 1991).

Twenty-one studies reported good measures of reliability and validity with the instruments used to measure social networks (Antonucci et al., 1997; Bowling & Browne, 1991; Carlson & Robertson, 1994; Coffman, Levitt & Deets, 1990; Coffman et al., 1991; Cohen, Teresi & Blum, 1994; Cossette, Lévesque & Laurin, 1995; Franks & Stephens, 1996; Quittner, Glueckauf & Jackson, 1990; Léveque, Cossette, & Laurin, 1995; Levitt, Coffman, Guacci-Franco, & Loveless, 1993; Levitt, Weber, & Clark, 1986; Levitt, Weber, & Guacci, 1993; MaloneBeach & Zarit, 1995; MalonBeach, Zarit & Farbman, 1995; Morgan, Neal & Carder, 1997; Redinbaugh, MacCallum & Kiecolt-Glaser, 1995; Suitor, Pillemer & Keeton, 1995; & Suitor & Keeton, 1997; Thompson et al., 1993; Wailing, Mailick Seltzer, & Greenberg, 1997). Five studies reported extensive use of interview methods

to elicit social network characteristics but did not report reliability and validity measures (Israel, Hogue & Gorton, 1984; Pagel, Erdly & Becker, 1987; Suitor & Pillemar, 1993; & Wellman & Wortley, 1990).

In research involving interviews, the inter-rater reliability measures were not consistently reported. Cross-sectional designs were most commonly used in the research and have been found to be inadequate in capturing the size and composition of networks that tend to be unstable (Morgan, Neal, & Carder, 1997).

Conclusion

The importance of conducting research on social networks has been emphasized in the literature: The beneficial effects of support available from social networks may buffer stress during major life transitions. Caregiving for a premature infant or a cognitively impaired parent or spouse is a stressful event resulting in additional burdens.

Although the size of the social network has not been directly associated with health (House, Umberson, & Landis, 1988; Israel, Hogue, & Gorton, 1984; Stoller & Pugliesli, 1991), social integration is associated with healthier behaviours (House et al., 1988). There is stability in the network size in adult life (Antonucci, 1991; Levitt, Weber, & Guacci, 1993), however withdrawal from social contacts may occur with life events and consequently support opportunities lessen with small networks (Bowling & Browne, 1991). Women caregivers of relatives with cognitive impairment reported withdrawal from their social networks (Morgan & March, 1992), women caregivers frequently reported only one helper (Penrod et al., 1995), and mothers of both term and premature infants with smaller networks reported more adjustment difficulty (Boukydis et al., 1987).

Coping with major life events may depend on the sources of support and how well the relationships within the personal networks can meet the demands (Morgan & March, 1992). Friends were reported as a source of support to married daughter caregivers (Suitor & Pillemer, 1993) and mothers of premature infants identified other mothers with premature infants as helpful (Boukydis et al., 1987).

The importance of close person support has been emphasized in the literature (Israel, Hogue, & Gorton, 1984). Spousal caregivers receive support from their adult children (Carlson & Robertson, 1994; Stoller, Foster, & Duniho, 1992), adult daughter caregivers receive emotional support from their husbands (Brody, Litvin, Hoffman, & Kleban, 1995; Franks & Stephens, 1996), and siblings and friends with similar experiences (Suitor & Pillemer, 1993; Suitor, Pillemer, & Keeton, 1995). Less is known about the social networks of mothers caring for fullterm or premature infants. With mothers of infants, primarily husbands (Coffman, Levitt, & Deets, 1990; Coffman, Levitt, Deets, & Quigley, 1991; Levitt, Weber, & Clark, 1986) provided emotional support. Similarly mothers of premature infants received support primarily from the husbands (Hodapp et al., 1992; Logsdon, Birkimer, & Barbee, 1997), but also, the mother's own mother (Mc Haffie, 1992). The inclusion of distant kin as a source of support is uncommon (Miller & McFall, 1994; Wellman & Worley, 1990).

The sources of instrumental support were not well reported in the literature. Caregiving daughters receive some form of instrumental support (Suitor & Pillemer, 1993). Mothers of infants reported their spouse as a source of help (Logsdon, Birkimer, & Barbee,1997). Sources of instrumental support to mothers of premature infants were not reported.

Within the personal networks are sources of conflict that were linked to less satisfaction with the personal relationships for both mothers with infants and women caregivers of elderly relatives (Logsdon, Birkimer, & Barbee, 1997; Levitt, Coffman, Guacci-Franco, & Loveless, 1993; Pagel, Erdly, & Becker, 1987; MaloneBeach & Zarit, 1995; Quittner, Glueckauf, & Jackson, 1990; Suitor & Pillemer, 1993; Townsend & Franks, 1995). Husbands (Levitt, Coffman, Guacci-Franco, & Loveless; 1993) and health professionals were reported a source of conflict for mothers with children (Stewart et al., 1994) and kin (sisters and adult children) were reported a source of conflict with women caregivers (Suitor & Pillemer, 1993 ; Semple, 1992).

The personal perception of support is a concept more commonly measured in research than the actual expression of support: Perceived support measures are associated with illness and distress in research studies (Barrera, 1986). The subjective measures of support maybe more important than the objective support measures (Antonucci et al., 1997).

Perceived satisfaction with support is related positively to maternal parenting, parenting satisfaction, and childhood development in the early phases of parenting (Crnic & Greenberg, 1987). Perceived satisfaction with support is correlated with well-being caregivers of a relative with a cognitive impairment (Léveque, Cossette, & Laurin, 1995).

The specific implications of social networks for these two groups of women are the importance of close person support and the emotional support from friends who are women and have had similar experiences. As well, the balance of the kin to nonkin in the network and the adequate size of the social network is important for opportunities of the various types of

support to be exchanged. Furthermore, the conflicted interactions within the kin social networks may affect the satisfaction with relationships and indirectly psychological well-being.

CHAPTER 3

Method

This study involved an analysis of data that was previously collected in an earlier study. The research compared the size and composition of the available social networks of two groups of women in stressful family caregiving situations: mothers of premature infants and women caregivers of a cognitively impaired relative. The informal and formal social networks of the women were compared for differences in the available social network size, the proportion of kin in the informal network, the sources of available support, the expected sources of conflicted interaction, and the perceived satisfaction with support in the utilized informal and formal social networks.

The Original Study

The original longitudinal study used a descriptive comparative design and explored perceived support and reciprocity in mothers with premature infants and caregivers of elderly relatives with cognitive impairment (Neufeld & Harrison, 1990; 1995). The data were collected in interviews with the women in their homes. For this study a secondary analysis was performed on part of the data set from the original study. The description of the women's social networks was obtained using the Arizona Social Support Interview Schedule (ASSIS; Barrera, 1980, 1981).

Sample Selection

The sample of mothers of premature infants was recruited through advertisements in offices of pediatricians for high risk infants and community newspapers; contacts by nurses in pediatric intensive care units and community health centres; advertisements in community newspapers;

and posters distributed to community parents' groups. Women caring for a relative who was cognitively impaired were recruited through advertisements at adult day care programs, notices enclosed with mailings from newspaper advertisements, and posters displayed by community organizations.

The sample consisted of 20 mothers of premature infants and 20 women caregivers caring for a relative with a cognitive impairment. Women were recruited who could speak and read English, had a telephone in their homes, and who resided in the Edmonton area (Neufeld & Harrison, 1995). Volunteers were recruited until the quota was reached.

Mothers of premature infants were included in the original study if their infant was 35 or fewer weeks gestational age at birth, a singleton, and no more than four months (chronological age) at the time of enrollment into the study. Women caring for a dependent older adult were included in the study if the dependent adult was 60 years of age or older, and identified as cognitively impaired by the caregivers. It was not required that the older adult live with the caregiver.

Data Collection

In the original study, three to five in depth interviews were conducted with 20 mothers of premature infants and 20 women caregivers of a relative with cognitive impairment. In the final interview, caregivers were interviewed using the Arizona Social Support Interview Schedule (ASSIS; Barrera, 1980, 1981; see Appendix A) and answered a questionnaire about demographic characteristics (see Appendix B). The infants of the mothers were 18 months of age and older at the time of the final interview using the ASSIS.

The demographic data included information on age of the participant, level of formal education, yearly family income, marital status, and employment status for both groups of women. The health status of the infant born prematurely and the gestational age of the infant at birth was obtained from the mothers. Number of years caregiving, and the residence and relationship to the dependent of the older care recipients were documented for caregivers of older persons.

Instruments

The instrument used to collect the data about the social network and satisfaction with support was the ASSIS (Barrera, 1980, 1981). In the original study four instruments were reviewed for their ability to document available and utilized networks, as well as the presence of conflicted relations, and ability to differentiate several types of social support (Neufeld & Harrison, 1990). The ASSIS was selected for the study as it measures the available, utilized, and conflicted social support networks and subjects' satisfaction with support. The interview schedule provides a method for subjects to identify individuals who serve support functions and are sources of interpersonal conflict. In the original study, the measure of *need* (4th question) in each of the six types of support was omitted from the interview schedule.

The ASSIS is a structured interview schedule in which respondents identify the people in their available and utilized social networks that provide six different types of social support. The six support functions include: (a) private feelings, (b) material aid, (c) advice, (d) positive feedback, (e) physical assistance, and (f) social participation. This instrument was chosen because it assists in identifying several types of instrumental and affective

support and asks for information about sources of conflict which may be important to caregivers (Neufeld & Harrison, 1990). The women's perceptions of satisfaction with support were obtained for the six types of support.

Reliability and Validity

The ASSIS has been used in studies of pregnant adolescent women, college students, adults (Barrera, 1980, 1981; Barrera et al., 1981), mental health outpatients (Barrera & Baca, 1990), housing residents (Goering et al., 1992), family caregivers to frail elders (Thompson et al., 1993), and mothers of hearing impaired children (Quittner, Glueckauf & Jackson, 1990). The reported test-retest reliability of the ASSIS for the available network size is $r = .88$, for the utilized network size is $r = .88$ and for the conflicted network size is $r = .54$ (Barrera, 1980, 1981). The results of the study with 45 college students reported a mean unconflicted network size of 10.4 members in the first interview and a mean of 10.8 in the second interview; a mean of slightly more than 2 members was reported in the conflicted network assessment ($M = 2.5$ and 2.6; Barrera, 1981). Barrera (1980) found that elicitation of names of network members for three support categories (material aid, intimate interactions, and guidance) showed significant increases from the first to the second interview and had low reliability percentages, however the total network size remained the most reliable indicator of network members. The support satisfaction measure showed a moderate test-retest correlation $r = .69$ (Barrera, 1980) and $r = .80$ (Barrera, 1981) and low internal consistency measures in some studies (coefficient alpha = .33 and .52; Barrera, 1980, 1981), however a

measure of coefficient alpha of .80 was obtained in a study of mental health outpatients (Barrera & Baca, 1990).

Validity of the categories of social support was established through a conceptual analysis of the social support literature. For each category of support two questions were developed to elicit the names of network members (Barrera, 1980).

Appropriateness of Secondary Data Analysis

The original investigators collected data to address a number of questions in the study of caregiver relationships. However, the comparison of the social networks of the two groups of women was not addressed. The existing database on women's social networks was well matched to the purpose of the study and the principal investigators were available to give the original researcher's perspective. An advantage of secondary analysis is the reduced costs of personnel and the prevention of duplication of the time and personal commitment volunteered by the caregivers (Woods & Catanzaro, 1988).

Data Analysis in the Current Study

The data for the women caregivers and mothers of premature infants were tabulated and analysis was completed using SPSS Base Program; Version 6.1. The significance level for statistical analysis was set at $p < .05$.

Some of the mothers of premature infants did not respond to the questions on perceived satisfaction with the utilized support network. There were 14 missing responses out of 120 possible responses on perceived satisfaction. Ten mothers did not respond to the specific item in the ASSIS on satisfaction with material aid received. Therefore, in the calculation of total perceived satisfaction with support, the missing values for perceived

satisfaction were replaced with the mean score from the mother's satisfaction responses for the other satisfaction items.

Descriptive statistics were used to describe the sociodemographic variables of the participant's marital status, relationship to dependent, number of children, years of caregiving for women caregiving for a cognitively impaired older person, and for mothers of premature infants, the gestational age of the infant. The available support sources, the expected sources of conflict in the networks (kin, nonkin, and professional), and the perceived satisfaction with utilized social support in networks for both sample groups was also described using descriptive statistics.

Prior to data analysis some variables were recoded into two categories. The family income for the participants was recoded into 1 = $40,000 or <, 2 = > $40,000. Educational level of the women participants was recoded into 1 = grade 12 or <, 2 = postsecondary, some university, or university degree. Employment status of the women participants was recoded into 1 = working full or part-time, 2 = not working. A Chi-square analysis was used to examine the associations of employment status, annual family income, and educational level with group membership. Differences between groups for age were tested using a *t*-test for independent samples following a test for homogeneity of variance. The analysis of the data will be discussed further in relation to each question in the study.

Size of the Social Network

Is there a difference between the size of the *available* social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

The total size of the *available* social network was established by counting the number of persons named in response to question one

(available) for each type of support in the ASSIS. For the total available network the descriptive statistics (M, SD, and range) were computed. The groups were compared for the difference in total available network size using a t-test for independent samples.

In order to look further at the differences in network size by subgroups, members of the available network were subsequently classified as: kin, nonkin, and professional. The kin network was established by including those members who were spouse, sister, brother, sister-in-law, brother-in-law, child, mother, father, and other extended relatives. The nonkin network was established by including those members who were friend, partner, neighbour, co-worker, boss, and other unpaid, nonfamily support. The professional network was established by including physicians, nurses, ministers, and other members reported who were providing support as a paid employee. The average size of the kin, nonkin, and professional available networks was compared using a multivariate test.

Composition and Type of Support

Who are the sources of each type of support in the *available* social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

The number of sources of support was established by counting those kin, nonkin, and professionals named in response to questions about people available for each of six types of support (A to F) for both groups of women. Scores were computed for the three subgroups for each of the six questions on support from A to F, using the same criteria as in research question one. The mean and standard deviation was computed for each of the support categories (questions A to F).

Is there a difference in the proportion of kin in the total informal social networks in the sources of *available* support for women caregivers of cognitively impaired older adults and mothers of premature infants?

The composition of the available informal support network was established by counting those kin and nonkin (excluding professionals) named in response to question one of the ASSIS (available) for each type of support (A to F) for both groups of women. To compute the proportion of kin in the total size of the informal network (kin and nonkin) for all categories of support, the kin and nonkin scores were added to create a total score and the total kin score for each category of support was divided by the kin + nonkin total score to create a proportion ($\sum X \div \sum (X + Y)$. The median and range of the proportion were calculated for both groups. The association between group membership and proportion of kin in the total informal network was analysed using chi-square.

Is there a difference between groups in the number of married women who report their spouse as a source of support for *private feelings* support in the *available* social network?

The number of women reporting spousal support for private feelings was established by counting the spouses named in response to question one of the ASSIS (available) for question A (private feelings) for both groups of women, after deleting nonmarried women. A Fisher's Exact test was used to examine the association between spousal support for private feelings and group membership because one cell had an expected frequency of less than five.

Conflicted Interaction

Who are the sources of conflict in the social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

The sources of conflict were established by counting those kin, nonkin, and professionals named in response to question G (negative interactions, subsection one) in the *available* (expected) conflicted network for all six types of support. The mean and standard deviation for the size of the kin, nonkin, and professional subgroups and the total network were computed. A t-test for independent samples was used to compare the total size of the conflicted network. A multivariate test was used to compare the size of the conflicted networks composed of kin, nonkin, and professionals.

Is there a difference in the proportion of kin to nonkin in the conflicted informal social networks for women caregivers of cognitively impaired older adults and mothers of premature infants?

The size of the *available* (expected) conflicted informal network was established by counting the number of kin and nonkin named in response to question G (negative interactions, subsection one), who provided support and conflict. To compute the proportion of kin in the total size of the informal network (kin and nonkin) for expected conflicted interaction, the kin scores and nonkin scores for expected negative interaction were added to create a total kin + nonkin score and the kin score for expected conflict was divided by the kin + nonkin total to create a proportion ($\sum X + \sum (X + Y)$. In order to examine the association between group membership and proportion of kin in the total informal network, chi-square was used.

Perceived Satisfaction with Support

What is the difference in perceived satisfaction for each type of support in the *utilized* social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

Mothers used a 3-point scale and the women caregivers a 7-point scale in rating their satisfaction with the support they received. To make the groups comparable, the 7-point rating scale was collapsed to match the 3-point rating scale.

The total satisfaction score for perceived satisfaction was calculated for five types of utilized support (excluding material aid support) by adding the responses for each satisfaction item for question 3 from A, C, D, E, and F on the ASSIS. The mean satisfaction score and standard deviation was calculated for each group of women. The difference of means for total perceived support were compared for the two groups of women using a t-test for independent samples.

Ethical Considerations

In the original study ethical approval was received in accordance with the policy of ethical review in research at the University of Alberta Faculty of Nursing. Signed consent was obtained from the subjects in the original study (see Appendix C). The consent form in the original study outlined the steps involved in the study and the risks and benefits to the subjects and included agreement that the data collected may be analysed at a later date upon approval of an ethics review committee. In the current study only data that was identified by a code number was used and anonymity of the subjects was maintained.

CHAPTER 4

Findings

The presentation of the findings begins with a description of the characteristics of the samples of women caregivers and mothers of premature infants. This information is followed by a discussion of the comparison of the two groups of women in relation to each research question.

Sociodemographic Characteristics

Characteristics of the sample are presented in Table 1. A majority of women caregivers ($n = 16$) and mothers of premature infants ($n = 19$) were married. The years of caregiving for the women caregivers ranged from 1 to 20 years ($M = 7.4$, $SD = 5.3$). For women caregivers, care recipients were reported as living with the caregiver ($n = 6$) or apart from the caregivers in a health care facility ($n = 11$). Three of the care recipients were deceased at the time the last interview was conducted therefore their place of residence was not reported. With regards to the caregiver-care recipient relationship, most women caregivers were either wives ($n = 8$) or daughters ($n = 9$), and a small number were daughters-in-law ($n = 2$), and a granddaughter ($n = 1$).

The gestational ages of the infant at delivery for the mothers ranged from 24 to 35 weeks ($M = 32.2$, $SD = 3.2$). The majority of the mothers had only one child ($M = 1.6$, $SD = .9$, range 1-4); eight mothers were multiparous. All the infants were living with their mothers.

An analysis comparing the women caregivers of a cognitively impaired relative and mothers of premature infants found women caregivers were significantly older than the mothers of premature infants, $t(25.88) = 12.84$, $p < .001$. A Chi-square analysis comparing family incomes showed that

women caregivers were more likely to have an annual family income less than $40,000 compared to mothers of premature infants ($40,000 or <, or >$40,000), $\chi^2(1, N=40)=3.9$, $p<.05$. A chi-square analysis of educational level of the women caregivers and mothers of premature infants showed no significant association between educational level (grade 12 or <, >grade 12) and group membership, $\chi^2(1, N=40)=.48$, $p>.05$. A Chi-square analysis comparing employment status for the women participants showed women caregivers were more likely not to be working compared to mothers of premature infants, $\chi^2(1, N=40)=6.6$, $p<.05$.

Table 1

Sociodemographic Variables by Group

Variable	Woman Caregivers n=20	Mothers n=20
Age (years)		
M (SD)	58.4 (9.2)	29.8 (4.0)
Range	37-71	25-40
Annual Income (in 1991 dollars)		
<$20,000	3	0
$20,000-$40,000	7	4
>$40,000	10	16
Education		
<Grade 12	5	2
Grade 12	2	3
Post-secondary or some University	7	11
University degree	6	4
Marital Status		
Married	16	19
Divorced/separated	1	1
Single	1	0
Widow	2	0
Employment status		
Part-time	2	7
Full time	6	9
Not employed	12	4

Size of the Social Network

Is there a difference between the size of the *available* social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

The number of members in the available social networks for women caregivers and for mothers with premature infants is presented in Table 2. Using a *t*-test for independent samples, there was no significant difference in the average total network size, $t(38) = -.188$, $p > .05$. The average total available social network was comparable for women caregivers ($M = 14.6$) and mothers of premature infants ($M = 15$).

Table 2

Number of Members in the Available Social Networks by Group

	Women Caregivers $n = 20$			Mothers $n = 20$			
Network	M	SD	range	M	SD	range	p
Total	14.6	6.1	5-28	15.0	7.3	8-37	ns
Kin	4.9	3.0	1-12	6.9	5.4	0-25	ns
Nonkin	8.2	4.5	2-16	7.7	3.9	1-14	ns
Professional	1.5	1.4	0-5	0.5	0.9	0-3	.01*

*$p < .05$

In order to examine the network size in more detail, the available social network was grouped as kin, nonkin, and professional. There was a significant difference between groups in the size of the networks, Hotellings, $F(3,36) = 4.5$, $p < .01$. When the univariate ANOVA result for each dependent variable was examined, the groups differed only on available professional support, $F(1,38) = 7.6$, $p < .01$. However the

difference in the average size of the professional network is very small (women caregivers $\underline{M} = 1.5$, mothers $\underline{M} = 0.5$).

Composition and Type of Support

Who are the sources of each type of support in the *available* social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

Scores for the social network sources of six types of support for women caregivers were compared to the scores of the mothers of premature infants using the categories of kin, nonkin, and professional calculated from the ASSIS. The means and standard deviations of the three sources are presented in Table 3.

Table 3

Number of Members in the Available Social Network by Source and by Type of Support in Each Group

	Available Support Sources			
Group	Kin M (SD)	Nonkin M (SD)	Professional M (SD)	Total M (SD)
Women Caregivers (n = 20)				
Private feelings	1.8 (2.0)	2.1 (1.8)	0.3 (0.6)	4.1 (3.8)
Material aid	3.3 (2.9)	3.3 (2.7)	0.2 (0.4)	6.8 (4.4)
Advice	2.4 (2.3)	2.7 (3.4)	1.1 (1.3)	6.2 (5.2)
Positive feedback	3.1 (2.9)	3.2 (3.5)	0.4 (0.6)	6.7 (5.7)
Physical assistance	3.0 (2.5)	3.4 (3.3)	0.3 (0.6)	6.7 (4.7)
Social participation	2.5 (2.7)	5.0 (3.6)	0.2 (0.5)	7.7 (5.8)
Mothers (n = 20)				
Private feelings	1.8 (0.9)	0.9 (1.4)	0.1 (0.2)	2.7 (1.7)
Material aid	5.3 (5.6)	1.1 (1.4)	0.0 (0.0)	6.4 (5.5)
Advice	2.8 (1.6)	1.6 (1.4)	0.5 (0.9)	4.8 (1.8)
Positive feedback	4.0 (4.8)	2.5 (1.8)	0.1 (0.3)	6.6 (4.6)
Physical assistance	3.9 (5.1)	2.9 (3.3)	0.1 (0.2)	6.8 (7.6)
Social participation	3.4 (5.4)	6.0 (3.3)	0.0 (0.0)	9.4 (7.4)

Kin and nonkin provide all six types of support for both groups of women. Professional support is reported by women caring for a cognitively impaired relative as available to provide support in all six categories. However, the mothers of premature infants indicated professional support was available in all categories except for material aid and social participation.

When networks that averaged 3 or more members were examined, women caregivers of a cognitively impaired relative had kin support for material aid, positive feedback, and physical assistance. Mothers of premature infants reported average kin networks of 3 or more for social participation, as well as, material aid, positive feedback, and physical assistance. For nonkin networks that averaged 3 or more members, women caregivers reported support available for material aid, positive feedback, physical assistance, and social participation. Mothers of premature infants reported assistance available from nonkin networks of 3 or more members only for social participation. The average professional network for both groups of women was fewer than 2 members in all six support categories.

Is there a difference in the proportion of kin in the total informal social network in the sources of *available* support for women caregivers of cognitively impaired older adults and mothers of premature infants?

The proportion of kin in the total informal network (kin and nonkin) ranged from .09 to .69 for women caregivers and ranged from .00 to .88 for mothers of premature infants. Both groups had fewer kin than nonkin in their total informal social networks. The total number of kin and nonkin in the social networks is presented in Table 4. The chi-square analysis of the ratio of kin to nonkin in the total informal network showed that the women

caregivers were less likely to have kin support compared to the mothers of premature infants, $\chi^2(1, N = 553) = 5.3$, $p < .05$).

Table 4

Number of Available Kin and Nonkin in the Social Network by Group

Group*	Kin $\bar{X}$	Nonkin $\bar{X}$
Women Caregivers ($n = 20$)	98	164
Mothers ($n = 20$)	137	154

*$p < .05$, two-tailed

Is there a difference between groups in the number of married women who report their spouse as a source of support for private feelings support in the available social network?

The number of married women who reported their spouse as a source of support is presented in Table 5. Married mothers of premature infants named their husbands as available to provide private feelings support more often than married caregivers, Fisher's Exact, $p < .05$.

Table 5

Married Women and Spousal Support for Private Feelings by Group

Spouse Support*	Women Caregivers $n = 16$	Mothers $n = 19$
Yes	9	17
No	7	2

*$p = .049$, two-tailed

Conflicted Interaction

Who are the sources of conflict in the social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

The means and standard deviations are presented in Table 6 for the number of sources of conflict in the available social network. Examples of the sources of conflict within the subgroups of kin, nonkin, and professionals are presented in Appendix D. There was no significant difference in the size of the total conflicted network for the two groups, $t(38) = -1.72$, $p > .05$.

Table 6

Number of Sources of Conflict in the Available Social Network by Group

	Sources of conflict			
Group	Kin M (SD)	Nonkin M (SD)	Professional M (SD)	Total M (SD)
Women Caregivers ($n = 20$)	1.7 (2.0)	0.4 (1.4)*	0.5 (0.9)	2.5 (3.0)
Mothers ($n = 20$)	2.6 (1.6)	1.4 (1.4)*	0.1 (0.2)	4.0 (2.3)

*$p < .05$

The conflicted network was divided into kin, nonkin, and professionals. A multivariate test (MANOVA) was used to compare the networks for both groups. Overall there was no significant difference between the groups, Hotellings $F(3,36) = .21$, $p > .05$). When the univariate ANOVA result for each variable was examined, the women caregivers of cognitively impaired relatives reported significantly fewer negative interactions with nonkin as

compared to the mothers of premature infants, $F(1,38) = 9.02$, $p < .05$. It is interesting to note that of the married mothers of premature infants ($n = 19$), their husbands were reported more as a source of conflicted interaction ($n = 16$) compared to the married women caregivers ($n = 16$) who reported their husbands less often as a source of conflicted interaction ($n = 2$).

Is there a difference in the proportion of kin to nonkin in the conflicted informal social networks for women caregivers of cognitively impaired older adults and mothers of premature infants?

The proportion of kin in the total informal conflicted network for women caregivers ranged from .00 to 1.0 as compared to a range of .25 to 1.0 for the mothers of premature infants. Both groups had more kin than nonkin in the informal network expected to provide conflict. The total number of kin and nonkin in the conflicted informal social networks are presented in Table 7. A chi-square analysis was used comparing the total number of kin and nonkin in the conflicted social networks. There was no association by group. The ratio of kin to nonkin in the total sources of conflict within the social network of both groups was similar, $\chi^2(1, N = 119) = 2.95$, $p > .05$).

Table 7

Number of Kin and Nonkin Who were Sources of Conflict in the Social Network by Group

Group	Kin $\sum$	Nonkin $\sum$
Women Caregivers ($n = 20$)	33	8
Mothers ($n = 20$)	51	27

Perceived Satisfaction with Support

What is the difference in perceived satisfaction for each type of support in the *utilized* social networks of women caregivers of cognitively impaired older adults and mothers of premature infants?

The means and standard deviations for the satisfaction scores are presented in Table 8. The mothers reported a mean score for satisfaction of 3 for all categories except material aid whereas the women caregivers reported a mean satisfaction score of 3 for material aid only. When the total satisfaction scores were compared, the mothers of premature infants reported significantly higher satisfaction than women caregivers, $t(20.25) = -3.4$, $p < .01$.

Table 8

The Perceived Satisfaction Ratings for Six Types of Support in the Utilized Social Network by Group

	Women Caregivers n = 20		Mothers n = 20	
Support Type	M	SD	M	SD
Private feelings	2.9	0.4	3.0	0.0
Material aid	3.0	0.0	2.9	0.3
Advice	2.8	0.6	3.0	0.0
Positive feedback	2.7	0.7	3.0	0.2
Physical assistance	2.7	0.6	3.0	0.0
Social Participation	2.7	0.6	3.0	0.2
Total **	13.6	1.7	14.9	0.3

a. Total satisfaction excludes material aid category.

*$p = .003$, two-tailed.

CHAPTER 5

Discussion of Findings

This study was designed to examine the characteristics of the structure and perceived satisfaction of the social networks of two groups of women: caregivers of an older relative with a cognitive impairment and mothers of premature infants. Specific areas examined included: (a) size of the available social network; (b) composition by kin, nonkin, and professional support within the social network; (c) sources of six categories of available support in the social network; (d) perceived satisfaction of utilized support within the social network; and (e) number and sources of conflict expected within the social network.

Data were obtained from responses to the ASSIS, a questionnaire consisting of naming people important to the participant who provided one or more out of six categories of support, naming those who were a source of negative interaction, and rating the perceived satisfaction for each of the six categories of support. The data were collected in interviews conducted as part of an earlier longitudinal study (Neufeld & Harrison, 1995) and a secondary analysis of the ASSIS data was done in the current study.

Size of the Social Networks

A distinctive feature of this study was the use of social support measures of perceived support to compare the availability of support within the networks of two groups of women. The average total available network size was approximately 15 members for both groups of women; there was no significant difference between groups. Although this study does not indicate why the social network size was the same for both groups, the results could be understood in the context of the convoy theory of social support (Antonucci, 1991). This theory suggests that there is a relatively

stable *convoy* or group of others within an individual's network across the lifespan. Levitt, Weber, and Guacci (1993) also found in their study of three generations of women ($n = 159$) that there were no significant differences in the network size when comparing the generations. The similarity in network size for women of different ages, may be due to a stability in the social network size across the lifespan.

Due to the variety of methods used to measure social network size, comparison of results across studies is difficult. Many of the studies reviewed differed in the method of measurement of the number who were perceived as available or had been utilized as a source of social support. Furthermore, many of the research findings reviewed, reported only the number of sources of utilized support and therefore the findings report small network sizes.

It is not known what constitutes an adequate social network size to enable women caregivers and mothers of premature infants to access or receive various types of support. A larger network may not necessarily be associated with perceptions of more adequate support. Seeman and Berkman (1988) stated from the research of older adults, that the larger networks are associated with greater availability of support; however they are not associated with greater perceived adequacy of support (p. 743).

Although no other studies compared the social networks of women caring for a relative with a cognitive impairment and mothers caring for a premature infant, the perceived total available network size in this study is consistent with results from other studies. Suitor, Wellman, and Morgan (1997) reported that the social network consists of 20 or fewer strong ties. Cohen et al. (1994) found with caregivers of a spouse with Alzheimer's

disease, that the average social network size over the previous 12 months was 25 important linkages. In two studies of mothers, a concentric circle diagram was used to map the important relationships. In mothers of both healthy and premature infants, the average network size was 16 (Coffman et al., 1991) and with mothers of infants at 13 months of age, the average network size was 13 (Levitt et al., 1986). One study using the ASSIS with a control group of Canadian mothers of young children reported a total available network size of 11 (Quittner et al., 1990).

The findings from this study did not indicate a smaller total network size for the women caregivers as compared to mothers of premature infants, although some women caregivers reported a smaller number of social contacts (range 5-28). Some studies addressing women caregivers reported a decline in network size for those caregivers who were more burdened (Morgan & March, 1992). Several other studies implied no change in the network size with increasing burden (Cohen et al.,1994; Miller & McFall, 1991; Penrod et al., 1995; Stoller & Pugliesi, 1991). There was no significant difference between groups in the size of the kin and nonkin subgroups within the total available network.

Although there was a significant difference between the groups in the size of the professional social network, the difference is small: The women caregivers had a professional network size of 0.5 persons larger. At the time of the study, the premature infants were 18 months of age and older, therefore, professional services would not have been as vital as in the earlier postpartum months. For both groups, the size of the informal network was substantial and the formal network size was smaller in comparison (range = 0-5, women caregivers; range = 0-3, mothers).

In a study of the professional network of mothers with premature infants, Boukydis et al. (1987) found that the mother's use of professional services was inversely correlated with network size. In a study of elderly people, Chappell and Blandford (1991) found that there was a sharing of tasks between the informal and formal support systems. Stoller and Pugliesi (1991) suggested on the basis of their research with older adults, that those receiving formal care also receive higher levels of informal support. The caregivers turn to the formal services as a last resort.

Composition and Type of Support

Composition

Using three broad categories of kin, nonkin, and professional to classify the support sources within the available social network, both the women caregivers and mothers reported support from kin and nonkin in all six support categories. Having both kin and nonkin sources of support in the available social network would offer the potential for support needs to be met. Current literature refers to variations in the sources of support over time and continuous changes in the sources of support within the kin and nonkin networks over the lifespan (Morgan et al., 1997; Suitor & Keeton, 1997). Suitor and Keeton, in their study of caregivers went on to say that different specific life events will call for variations in the sources and kinds of supportive resources to individuals. One could speculate that the amount and type of kin and nonkin support could vary for the women caregivers of relatives of cognitively impaired and mothers of premature infants depending on the nature of the life event and the phase of the woman's life in which it occurs.

In this study nonkin ties comprised a larger proportion of the available informal social networks than did kin ties for both groups of women. The larger proportion of nonkin ties is consistent with the findings in the literature on women caregivers in the middle years and adults but not with studies of mothers of infants. For mothers of infants, a larger network of kin ties as compared to nonkin ties was reported in studies by Feiring et al. (1987) at 3 months postpartum and by Munch et al. (1997) with mothers of young infants. However Munch and colleagues found more friends were included in the mother's networks as the child approached 3 years of age. In the author's study, the age of the children was 18 months and older which could account for the larger proportion of nonkin in the network. Interestingly, Suitor, Wellman, and Morgan (1997) reported that kinship ties are more persistent in the network than nonkin ties; however this study did not examine the ebb and flow of ties over time.

Morgan and colleagues (1997) state that one explanation for the high proportion of nonkin reported in many studies is that "more extensive network elicitations generate a higher proportion of nonfamily" (p. 14). They also found that over a one year period, widows in their study had a network comprising a balance of kin and nonkin. However, Antonucci et al. (1997) found in southwestern France, that a large percentage of the older adults in their study reported networks consisting of *all or mostly family* (72%). As well, Levitt, Weber, and Guacci (1993) reported a significantly higher proportion of family than friends in the social networks of older women as compared to the young adult women. Perhaps a possible explanation in this study for the smaller proportion of kin in the total informal network size for women caregivers is that the average age of the women caregivers ($\underline{M} = 58$

years) was younger compared to older women studied in the previous studies cited. Levitt et al. (1993) suggest that through "the birth of children and grandchildren, the social convoy should become increasingly family focused" over the lifespan (p.326).

Upon further examination of the ratio of kin to nonkin in the total informal network, women caregivers were less likely to have kin support compared to the mothers of premature infants. It is difficult to speculate why the mothers would have more association with kin support than the woman caregivers. No other studies were reported in the literature comparing these two groups. Many of the spousal caregivers did not report spousal support. This may be related to their spouse's condition of cognitive impairment which diminished meaningful communication within the relationship. The interpretation of this result is also limited by the small size and volunteer nature of the sample.

The characteristics of sources within the nonkin and kin available network were not analysed in this study. However it is interesting to note in the literature describing nonkin networks, that persons with similar caregiving experience (Suitor, Pillemer, & Keeton, 1995; Pillemer & Suitor, 1996) and other parents of premature infants (Boukydis et al., 1987) were important sources of support. As well, with regards to the kin ties reported in the literature, specific ties were emphasized: the importance of the husband with mothers of infants (Coffman et al., 1991; Levitt et al., 1986; Logsdon, Birkimer, & Barbee, 1997), and with mothers of premature infants (Boukydis et al., 1987; Crnic & Greenberg, 1987; Hodapp et al., 1992), and the grandmother (daughter-mother dyad) as important ties for mothers of infants (Levitt et al., 1986; McHaffie, 1992; Zachariah, 1994).

Close person support

In examining the married women caregiver's and married mother's perceptions of spousal support for private feelings (one category of support), a significant association was found for the mothers and spousal support. The association of spousal support for private feelings with group membership just reached significance ($p = .049$); thus, the results should be interpreted cautiously. Some of the women caregivers may not have identified their spouse as supportive because of cognitive impairment (i.e., 7 out of 8 spouses had stroke or Alzheimer's disease). Naming the husband as one of the primary sources of support is consistent with studies in the literature addressing mothers of infants (Boukydis et al., 1987; Coffman et al., 1993; Crnic & Greenberg, 1987; Feiring et al., 1987; Kaufman & Hall, 1989; Levitt et al., 1986; Logsdon et al., 1997).

Conflicted Interaction

Both the women caregivers of a relative with cognitive impairment and mothers of premature infants identified persons with whom they had frequent conflicts. In this study, the number of members in the total available conflicted network was similar for both groups ($M = 2.5$, women caregivers; $M = 4.0$, mothers). In the current literature, although numerous studies addressed conflictual relationships in the women caregiver network, no findings reported the size of the conflicted network. Similarly, no studies were found that measured the conflicted network size in mothers of premature infants. In this study the total available social support network was substantially larger than the conflicted network for both groups of women, however, both groups report conflicted close relationships within that support network. What qualifies as a small network size for conflicted

relationships as compared to a larger size network has not been reported in the current literature. Conflict in relationships within the social network has been found to have negative implications for the caregiver. For example, Russo and Vitaliano (1994) found with spousal caregivers that serious family arguments (not including a spouse) were associated with burden. MaloneBeach and Zarit (1995) speculate from their findings on social conflict in women caregivers that "social conflict occurring in an already stressful context, would have negative implications" (p. 34).

On further subanalysis of the conflicted networks, the findings in this study indicate that both groups of women have conflicted relationships with kin, nonkin, and professionals. Mothers of premature infants reported more negative interactions with nonkin than the women caregivers of a relative with cognitive impairment. It is difficult to explain the reasons why the mothers would have more conflict with nonkin as little research on this topic is available in the current literature.

Consistent with the current literature on caregivers, family conflicts exist. Adult caregivers of parents reported conflicts with siblings (Merrill, 1996; Smith, Smith, & Toseland, 1991; Suitor & Pillemer, 1993; Semple, 1992) and spousal caregivers with sons and daughters (Semple, 1992). For example, caregivers received little help from their siblings and experienced conflict when they requested help (Merill; Smith et al.). Other examples of conflict were described by Semple. Conflicts arose over the amount of attention, assistance, and acknowledgement provided to the caregiver by other family members and the limited attention, assistance, respect, and patience displayed toward the patient.

Few studies have addressed conflicted interactions in the networks of mothers with infants and none addressed conflicted interaction in the networks of mothers of premature infants. Conflicted interaction with husbands was reported (Coffman et al., 1991; Feiring et al., 1987; Levitt, Coffman, Guacci-Franco, & Loveless; 1993; Stewartet al., 1994). For example, couples had conflicting expectations regarding emotional support, affection, shared time, and support with child care and methods of child care (Levitt, Coffman, Guacci-Franco, & Loveless) and mothers of children with chronic conditions reported concern about lack of participation from their spouses (Stewart et al.). In the findings of this study, the mothers of premature infants reported the husband and their mother most often as a source of conflict and women caregivers reported their adult children and adult siblings (see Appendix D). In relation to spousal conflict in this study, mothers reported their spouse as a source of conflict more often than married women caregivers.

Due to the small sample size, it was not possible in this study to analyse the data for conflicted interactions separately for daughters and spousal caregivers of an older adult. There may be different levels of conflict within the social support networks of adult children caregivers compared to spousal caregivers. For example Semple (1992) reported that conflict in the daughters' caregiver network was high compared to spousal caregivers.

Perceived Satisfaction with Support

Perceived satisfaction with support from the utilized social network was significantly higher for mothers of premature infants than women caregivers. Since this study did not measure health variables such as life satisfaction, well being, or depression, it is not known what importance this

difference in perceived satisfaction with support would have in terms of the health of the woman caregivers compared to the mothers. Antonucci (1991) found that network satisfaction variables and not network size were associated with life satisfaction in adults and more recently (1997) that depression variables were negatively associated with perceived satisfaction with social support in a study of older adults. Although significant, the difference in satisfaction scores for the two groups in this study is small and clinically the two groups may not display obvious differences in support satisfaction. Additionally, there were methodological limitations in the analysis of this data that could account for the difference between the groups. Nevertheless, many researchers have emphasized the value of measuring the perceived adequacy of support within the network because of the suggested associations with health outcomes (Antonucci, 1997; Barrera, 1986; Seeman & Berkman, 1988).

Implications for Nursing

The findings of this study revealed some differences in the characteristics of the social networks of mothers of premature infants and caregivers of an older relative who is cognitively impaired. As Antonucci (1997) suggests, it is important to distinguish variations in social relationship characteristics because they "suggest different mechanisms for intervention" (p. 194). The closeness of social relationships and the adequacy of those connections differ.

Although the groups of women in this study were mostly similar in the characteristics of their social networks, they differed in the composition of their network and their perceived satisfaction with support. This study however did not include mothers of premature infants who were single,

adolescent, or had lower incomes. Women were not included of diverse ethnic backgrounds in either of the sample groups. Women caregivers and mothers of premature infants from other ethnic backgrounds may have social networks that differ in size and composition.

Assessment of the Social Network

It is important that nurses working with either caregivers or mothers of infants thoroughly assess the perceived availability, composition, conflict, and the adequacy of support from the kin and nonkin within the social network. The ASSIS interview schedule administered in this study has potential clinical use with families. Although the objective measures of size are important, the subjective measures of perceived availability, and perceived satisfaction are important to include in the assessment because of the linkage to health outcomes in earlier research and their implications for intervention.

The assessment of the social networks ought to be ongoing; however, the greatest impact of burden is during transition periods when the there may be more ups and downs within relationships, and fluctuations in intimacy (Suitor, Wellman, & Morgan, 1997). Life events are often undesirable and unpredictable. Coping with the event will involve changes in the personal network (Morgan & March, 1992). Consequently, times of life transition are particularly important for assessment of social networks.

Nursing Interventions

Admittedly, the interventions available for strengthening the social network ties are complex. The important areas to consider for nursing intervention include social skills and self-esteem, patterns of communication

and role expectations in couples and within families, conflicts within kin networks, and friendships with those with similar experience.

Women who feel more comfortable in interpersonal relationships may have more social support from their networks. However the number of network ties that an individual has as a resource may be conditioned through a complex set of life circumstances and may not be easily changed. Nevertheless, interventions that enhance an individual's social skills and self-esteem are important. Through a preventive focus, communication skills and social skills can be offered. Robinson (1990a) found a positive relationship between social skills and available social support in a study of caregivers of an elder with a cognitive impairment. Furthermore, the caregivers who had less affection, aid, and affirmation in their social network had lower measures of self-esteem. Smith et al. (1991) reported that learning coping techniques of time management and stress reduction were identified as issues for daughter caregivers of an elder parent. In mothers with infants, Crnic and Greenberg (1987) suggest that good coping skills may lead the mother to choose healthy relationships and to report higher satisfaction with parenthood.

Nurses, can offer support by recognizing the demands of the caregiving role. Assessing the patterns of communication and addressing conflicts is important with all couples in which a woman is a caregiver (Dorfman et al., 1996) or a mother of an infant. Clarifying role expectations within the marital dyad needs to be done early when there is anticipation of a transition or in the prenatal period for those anticipating parenthood (Coffman et al., 1991). As well, involvement of the father is important in all health care interactions. With expectant mothers, clarifying the role

expectations within the mother-daughter dyad and identifying the availability of close person support is a major concern because of the importance of these two sources of support for mothers of infants. In addressing family issues, it is important to recognize that conflicts within the kin networks may exist. In families with caregiving responsibilities of a parent or spouse with cognitive impairment, lack of involvement of family members and unclarified role expectations with siblings and adult children of spousal caregivers may be factors influencing support.

Associating with supportive individuals has been identified in many studies as important for psychological well-being. Friendships with those with similar experiences and mobilizing one-to-one or group support ought to be encouraged (Boukydis & Moses, 1995; Pillemer & Suitor, 1996). Pillemer and Suitor found that there was an association between a larger number of similar others in the caregiver's social network and provision of instrumental and emotional support to the caregiver by the associates compared to caregivers with fewer similar others in their social network. As well, the individual's phase within the life event is a consideration when identifying those with similar experience for participation in a support group.

Health Policies

Nurses ought to be mindful when involved in developing or advocating for social policy that family members and family friends demonstrate a strong commitment within the context of large kin and nonkin network. As well, when the formal system is involved in care, the kin and nonkin within the network remain involved and provide substantial support. Their partnership and representation " at all levels within government, health departments, and health agencies is essential" (Wuest, 1994; p. 125) to

develop public policy that is supportive of their cultural role of providing care.

The Copenhagen Conference on women's health issues (Dan, 1994) recognized the excessive burden of women's caring work and emphasized the following: education for empowerment, occupational opportunity for improving women's health, and recognition in health policy and services of the unpaid health care which women provide. The privatization of programs has decreased options available to women caregivers in care relief and assistance (McDaniel & Gee, 1993). Policies supporting flexible workplace programs to accommodate employee elder care responsibilities and establishment of high quality child care programs could positively impact the lives of women.

Limitations and Directions for Future Research

Limitations

This cross-sectional study does not allow for an understanding of the changes over time in the structure and composition of the social network. Due to the small sample size and the use of convenience sampling methods, the results cannot be generalized to other locations or groups of caregivers. A number of the findings barely reached significance in this study and the results need to be interpreted cautiously. The study needs to replicated with a larger population.

In this study, professional was defined as including physicians, nurses, ministers, and others who were providing support as a paid employee. In a previous study using the same data set, the researcher (Hibbard, 1994) obtained a larger nonkin network and a smaller professional network for

women caregivers due to classification of some sources of help that originated through organization as nonkin rather than professional.

Measurement error may have occurred in this study due to the questionnaire design and there maybe be inconsistencies in reporting network size. Firstly, the interview questions and probe questions in the ASSIS do not clearly indicate if children under 18 years of age are to be included. Some mothers reported their young children as sources of support however some did not include their young children. Secondly, some respondents in both groups reported sources of conflict who had previously not been reported as sources of support in the items A to F. Barrera (1981) indicated that the definition of conflicted network size was the number who offered at least one positive form of support and as well were sources of interpersonal conflict.

Directions for Future Research

Nursing research on the availability and adequacy of social networks for women caregivers and particularly mothers of infants is in the beginning stages of development. Although the results of this study provide information on the structure, composition, and perceived adequacy of the social networks, the social ties that are mobilized in times of life transitions remain poorly understood. Further research is needed to examine the pattern of interchange of the core-periphery network ties over time.

Conflict in relationships within the social network may have unhealthy outcomes. It would be useful to be able to assess the impact of conflict on the caregiver's health when the person within the network is an important source of support. The significance of conflict during life transitions within the informal network is not well researched particularly for mothers with

infants. Further study is important to determine the sources of conflict, and the relationship of size of the conflicted network and the intensity of the conflict to health outcomes.

Finally, knowledge would be enhanced by using qualitative measures to understand the process and experience of group interventions. For example, further study is needed to understand the nature of social skill building groups and the benefits of interpersonal communication within the social network. Secondly, research would be helpful to examine support groups and their relationship to provision of relief and ability to maintain caregiving.

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Appendix A

Arizona Social Support Interview Schedule (ASSIS)*

In the next few minutes I would like to get an idea of the people who are important to you in a number of different ways. I will be reading descriptions of ways that people are often important to us. After I read each description I will be asking you to give me the first names, initials, or nicknames of the people who fit the descriptions. These people might be friends, family members, teachers, ministers, doctors, or other people you might know.

If you have any questions about the descriptions after I read each one, please ask me to try and make it clearer.

A. PRIVATE FEELINGS

1. If you wanted to talk to someone about things that are very personal and private, who would you talk to? Give me the first names, initials, or nicknames of the people that you would talk to about things that are very personal and private.
PROBE: Is there anyone else that you can think of?

2. During the last month, which of these people did you actually talk to about things that were personal and private?
PROBE: Ask specifically about people who were listed in response to #1 but not listed in response to #2.

3. During the last month, would you have liked:

1 = a lot more opportunities to talk to people about your personal and private feelings
2 = a few more opportunities
3 = or was this about right?

B. MATERIAL AID

1. Who are the people you know that would lend or give you $25 or more if you needed it, or would lend or give you something (a physical object) that was valuable? You can name some of the same people that you named before if they fit this description, too, or you can name some other people.
PROBE: Is there anyone else that you can think of?

2. During the past month, which of these people actually loaned or gave you some money over $25 or gave or loaned you some valuable object that you needed?
PROBE: Ask about people named in response to #1 that were not named in response to #2.

3. During the past month, would you have liked people to have loaned you or to have given you:

1 = a lot more

2 = a little more
3 = or was it about right?

C. ADVICE

1. Who would you go to if a situation came up when you needed some advice? Remember, you can name some of the same people that you mentioned before, or you can name some new people.
PROBE: Anyone else?

2. During the past month, which of these people actually gave you some important advice?
PROBE: Inquire about people who were listed for #1 but not for #2.

3. During the past month, would you have like:

1 = a lot more advice
2 = a little more advice
3 = or was it just about right?

D. POSITIVE FEEDBACK

1. Who are the people that you could expect to let you know when they like your ideas or the things that you do? These might be people you mentioned before or new people.
PROBE: Anyone else?

2. During the past month, which of these people actually let you know that they liked your ideas or liked the things that you did?
PROBE: Ask about individuals who were listed for #1 but not for #2.

3. During the past month, would you have liked people to tell you that they liked your ideas or things that you did:

1 = a lot more often
2 = a little more
3 = or was it about right?

E. PHYSICAL ASSISTANCE

1. Who are the people that you could call on to give up some of their time and energy to help you take care of something that you needed to do--things like driving you someplace you needed to go, helping you do some work around the house, going to the store for you, and things like that? Remember, you might have listed these people before or they could be new names.
PROBE: Anyone else you can think of?

2. During the past month, which of these people actually pitched in to help you do things that you needed some help with?
PROBE: Ask about people who were named in response to #1 but who were not named in response to #2.

3. During the past month, would you have liked:

1 = a lot more help with things that you needed to do
2 = a little more help
3 = or was this about right?

F. SOCIAL PARTICIPATION

1. Who are the people that you get together with to have fun or to relax? These could be new names or ones you listed before.
PROBE: Anyone else?

2. During the past month, which of these people did you actually get together with to have fun or to relax?
PROBE: Ask about people who were named in #1 but not in #2.

3. During the past month, would you have liked:

1 = a lot more opportunities to get together with people for fun and relaxation
2 = a few more
3 = or was it about right?

G. NEGATIVE INTERACTION

1. Who are the people that you can expect to have some unpleasant disagreements with or people that you can expect to make you angry and upset? These could be new names or names you listed before.
PROBE: Anyone else?

2. During the past month, which of these people have you actually had some unpleasant disagreements with or have actually made you angry and upset?
PROBE: Ask about people listed for #1, but not for #2.

H. PERSONAL CHARACTERISTICS OF NETWORK MEMBERS

Now I would like to get some information about the people you have just listed. For each person on the list, could you tell me:

1. What is this person's relationship to you? For family members, specify the exact relationship (mother, father, brother, sister, grandmother, etc.). For professional people, also specify the exact profession (teacher, minister, doctor, counsellor, etc.).

2. How old is this person?

3. What is this person's sex?

4. How long have you known this person?

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* Barrera, M. (1981)

Appendix B

RESEARCH STUDY: WOMEN AS CAREGIVERS: PERCEPTION OF RECIPROCITY IN SOCIAL SUPPORT

DEMOGRAPHIC DATA

In order to describe the WOMEN who have participated in the study, we would like you to answer the following questions:

1. What was your age on your last birthday? (years) _____

2. Indicate by an X the amount of formal education you have.

Less than Grade 12	_____
Grade 12	_____
Some University or post high school diploma	_____
University degree	_____
Graduate degree	_____

3. Into which category would you place your yearly family income?

Less than $20,000	_____
$20,000 to $40,000	_____
Over $40,000	_____

4. What is your current or past occupation? _____

5. For mothers of premature infants:

What are the ages of your children? Please list.

_____
_____
_____
_____

6. If your are caring for an older person who is confused:

(a) Please mark with an X each of the major difficulties which the person you care for experiences:

Unaware of the time	_____
Unaware of where they are	_____
Unaware of who is around them	_____
Forgets events in the recent past	_____
Forgets events in their early life	_____

(b) Do you live with the older person you are caring for? _____

(c) What is your relationship to the older person you are caring for? _____

Appendix C

FACULTY OF NURSING
UNIVERSITY OF ALBERTA

RESEARCH STUDY: WOMEN AS CAREGIVERS: PERCEPTIONS OF RECIPROCITY IN SOCIAL NETWORKS

Researchers:

Principal Investigator
Dr. Anne Neufeld
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Phone: 432-6764

Co-investigator
Dr. Margaret Harrison
Associate Professor
432-5931

The purpose of this study is to understand the social relationships of women who are caregivers. This study will provide no direct benefits to you but the results of the study will help nurses to plan programs to assist other women who are caregivers.

You will be interviewed three to five times during a 12 month period; each interview will last 1 to 1½ hours. The interviews will be held in your home at a time you choose and will be tape recorded. You will be asked to describe your relationship with the adult or baby you care for and to describe the help that you get from and give to others. You will also be asked to say what you consider to be important in life.

the information you give in the interviews will be typed out. Your name will not appear on the typed interviews, the questionnaires, or in any reports of the study. During the study, only code numbers will be used to identify the interviews and questionnaires which will be stored in a locked file cabinet.

At the end of the study, the code list will be destroyed. The information you have given will be stored in a locked file cabinet for possible future analysis by either Dr. Neufeld or Dr. Harrison. Before the information is looked at again, the researchers will get permission from the appropriate ethical review committee.

Taking part in this study is voluntary. You may refuse to answer any questions and may withdraw from the study at any time by telling the interviewer.

If you have any questions while you are participating in the study, you can contact either Dr. Neufeld or Dr. Harrison. A copy of this consent will be given to you.

_____ _____
Research Assistant Signature of Subject

_____
Date

Appendix D

Examples of Kin, Nonkin, and Professionals Named in the Expected Conflicted Network

Both groups of women named eleven categories of kin expected to provide negative interaction and eight categories were common to women of both groups: husband, sister, brother, mother, mother-in-law, sister-in-law, daughter, and son. Both sample groups named four categories of nonkin expected to provide negative interaction and three categories were common to both groups: friend, co-worker, and boss. The women caregivers listed three categories of persons with whom they expected negative interaction with professionals as compared to one category with professionals for mothers of premature infants.

Examples of the kin expected to provide negative interaction for the women caregivers of cognitively impaired relatives were adult son ($n = 6$), adult daughter ($n = 6$), sister ($n = 5$), brother ($n = 5$), mother ($n = 3$), sister-in-law ($n = 2$), husband ($n = 2$), mother-in-law ($n = 1$), aunt ($n = 1$), uncle ($n = 1$), and grand mother ($n = 1$). Examples of kin expected to provide negative interaction for the mothers of premature infants were husband ($n = 16$), mother ($n = 10$), sister ($n = 6$), father ($n = 4$), brother ($n = 3$), mother-in-law ($n = 3$), daughter ($n = 3$), son ($n = 3$), step mother ($n = 1$), sister-in-law ($n = 1$), and cousin ($n = 1$).

Examples of nonkin expected to provide negative interaction reported for women caregivers of cognitively impaired relatives were boss ($n = 3$), friend ($n = 2$), co-worker ($n = 2$), and self-help group members ($n = 1$). Similarly, for the mothers of premature infants, expected negative interactions from nonkin were reported with friend ($n = 14$), co-worker

(n = 8), and boss (n = 5), but as well they reported playschool members (n = 1).

Examples of professionals expected to provide negative interaction reported for women caregivers were health care facility staff (n = 3), hospital doctors (n = 1), and the political system (n = 3). For the mothers of premature infants, expected negative interaction from professionals was reported only as physician (n = 1).